

# Service Manual

**PIONEER**  
The Art of Entertainment

• KE-1303QR



ORDER NO.  
**CRT1573**

CASSETTE CAR STEREO WITH FM/AM ELECTRONIC TUNER

# KE-1303QR

XMA/UC

# KE-1800QR

XMA/UC

# KE-2800QR

XMA/ES

# KE-2850QR

XMA/ES

# KE-2800B

XMA/EW

## Note:

- See the service manual KE-1818 (CRT1504) for the cassette mechanism description.

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# 1. SAFETY INFORMATION

● UC Model

**CAUTION**

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

**WARNING**

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 252249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

● EW Model

**WARNING!**

Lithium batteries. Danger of explosion. Replacement must be done by qualified personnel and only by following the instructions given in the service manual.

This warning is stated on the product or in the operating instructions. When replacing the lithium batteries, follow the note below. Dispose of the used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.

The battery used in this device may present a fire or chemical hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate. Replace only with the same Part Number. Use of another battery may present a risk of fire or explosion.

Note: The lithium battery installation position is shown in the exploded view and the P.C. board pattern.

**ADVARSEL!**

Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

Denne advarsel er angivet på produktet eller i brugsvejledningen. Ved udskiftning af lithium batterierne følges nedenstående anvisning.

Batterierne må kun udskiftes med batterier af samme type og mærke.

**VARNING**

Explosionsfara vid felaktigt batteri-byte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

Denna varning finns på apparaten eller i bruksanvisningen. Följ nedanstående anvisningar vid byte av litiumbatterier. Batterierna får endast bytas ut mot litiumbatterier av samma typ och fabrikat.

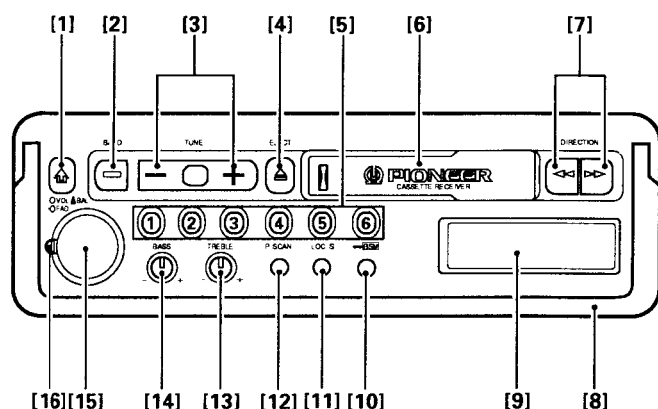


Fig. 1

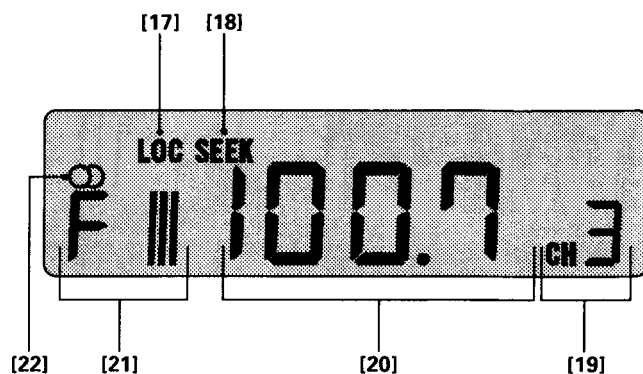


Fig. 2

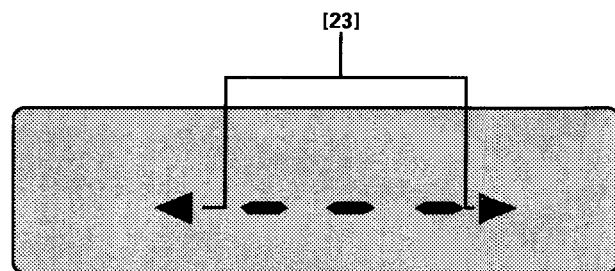


Fig. 3

## 2. USING THE RADIO

### Parts Identification

#### (Fig. 1)

- [2] Band
- [3] Tuning
- [5] Preset
- [9] Display
- [10] Best Stations Memory (BSM)
- [11] Local Station
- [12] Preset Scan
- [13] Treble
- [14] Bass
- [15] Volume / Balance / Power Switch
- [16] Fader

#### (Fig. 2)

- [17] Local Station
- [18] Seek
- [19] Preset Number
- [20] Frequency
- [21] Band
- [22] Stereo

### Listening to the Radio

#### • Before attempting operation...

- Set the fader control [16] to the left horizontal.
- 1. Turning the power switch [15] to the right causes power to switch ON and the current frequency to appear on the display [20].

- Since the set is designed preferentially for tape play, eject a cassette tape, if loaded, before operating the radio.
- 2. Press the button [2] to select the band.
- 3. Press both ends of the button [3] and the seek tuning indicator will appear on the display [18].
- 4. Press either the left or right side of the button [3] to tune in the desired frequency. (Pressing the right side will increase the frequency.)
- 5. Adjust the volume and balance. To adjust the balance, first pull the knob [15] until a click is heard. After setting to the desired level, push the knob [15] in again to its original position.
- 6. Adjust the tone [13], [14].
- To enter a frequency into the preset memory...
- 7. Hold down one of the buttons in Bank [5] for approximately 2 seconds. The frequency is stored in memory (assigned to the button in Bank [5] pressed) once the preset number stops flashing on the display [19].
- 6 FM1 frequencies, 6 FM2 frequencies, 6 FM3 frequencies and 6 AM frequencies can be entered.

### BSM (Best Stations Memory)

This function automatically locates stronger stations and automatically assigns their frequencies to the buttons in Bank [5], from strongest to weakest. It comes in handy when trying to find local stations while driving.

1. Press button [2] and select a band.
2. Holding down button [10] for about 2 seconds will start BSM search. At this time, "..." will flash on the display.
3. The frequency display will return once BSM search is complete, and frequencies are assigned to buttons 1 through 6 in Bank [5].
- At the end of the BSM search, the displayed frequency is that assigned to button 1 of Bank [5].
- If there are fewer than 6 strong stations in the area, some of the buttons in Bank [5] will not be assigned frequencies, so they will retain any frequencies assigned to them previously.
- BSM search may take as long as 30 seconds in areas where there are few strong stations.

### Fader Control

This control is used to adjust the balance between the front and rear speakers when using a 4-speaker system. Turning the control [16] upward decreases the volume of the rear speakers, while turning it downward decreases the volume of the front speakers. With 2-speaker systems, set this control [16] to horizontal.

- A considerable amount of sound will continue to be produced from speakers of a 4-speaker system which have been cut by setting the fader control either to the front speakers or rear speakers. This is normal and does not indicate malfunction.

### Preset Scan Tuning

This function lets you automatically monitor the stations assigned to the preset buttons.

1. Press the button [12], and the preset number [19] flashes.  
Each station assigned to the buttons in Bank [5] will be automatically tuned in for about 8 seconds.
2. When you hear a station that you like, press button [12] again to cancel preset scan tuning and remain at that station.

### Adjusting Seek Sensitivity

The seek tuning function of this tuner lets you select between a local setting for reception of strong stations only, and a DX (distant) setting for reception of weaker stations. The local setting also has four seek tuning sensitivity levels for FM and 2 levels for AM to match local conditions.

#### Changing the Local Seek Sensitivity

1. Use button [2] to select a band.
  2. Hold down the button [11] for more than 2 seconds, and the display will show you the current local seek sensitivity for about 5 seconds.
  3. While the local seek sensitivity remains on the display, press the (+) side of button [3] to increase the sensitivity level, and the (-) side to decrease the level as shown below.  
FM : L-1  $\rightleftharpoons$  L-2  $\rightleftharpoons$  L-3  $\rightleftharpoons$  L-4  
AM : L-1  $\rightleftharpoons$  L-2  
The L-4 setting allows reception of only the strongest stations, while lower settings let you receive progressively weaker stations.
- The display of local seek sensitivity returns to the frequency when about 5 seconds have elapsed after the change of sensitivity.

### Switching between Local and DX

Press button [11] to switch between Local and DX (distant) seek tuning. When "LOC" [17] is shown on the display, seek tuning is performed with the local seek sensitivity. Otherwise, seek tuning is performed with the DX seek sensitivity.

### Manual Tuning

Use manual tuning when stations are too weak to be picked up by seek tuning.

1. Press both (+) and (-) sides of button [3] at the same time to clear "SEEK" [18].
2. Each press of the (+) side of button [3] increases the frequency in 0.2 MHz steps in the FM band, 10 kHz in the AM band. Pressing the (-) side of button [3] decreases the frequency. Holding down either side of button [3] changes the frequency at high speed.

## 3. USING THE TAPE DECK

### Parts Identification

(Fig. 1)

- [4] Eject
- [6] Cassette Door
- [7] Fast Forward, Rewind / Direction Change
- [9] Display
- [13] Treble
- [14] Bass
- [15] Volume / Balance / Power Switch
- [16] Fader

(Fig. 3)

- [23] Direction

#### About cassette tapes

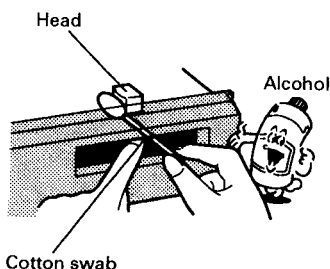
- Do not use tapes longer than C-90-type (90 min.) cassettes. Longer tapes can interfere with tape transport.
- Storing cassettes in areas directly exposed to sunlight or high temperatures can distort them and subsequently interfere with tape transport.



- Store unused tapes in a tape case where there is no danger of them becoming loose or being exposed to dust.

#### Cleaning the head

If the playback head becomes dirty, sound quality will suffer. Periodically (once or twice a month) clean the head with a cotton swab soaked with alcohol.



### Listening to a tape

- Before attempting operation...
- Set the fader control [16] to the left horizontal.
- 1. Turning the power switch [15] to the right causes power to switch ON.
- 2. Loading a cassette tape into the load slot [6] causes playback to begin automatically.
- 3. Adjust the volume and balance. To adjust the balance, first pull the knob [15] until a click is heard. After setting to the desired level, push the knob in [15] again to its original position.
- 4. Adjust the tone [13], [14].
- 5. When tape playback reaches the end of the tape, playback will automatically switch from the side being played to the opposite side (ie. Side A to Side B or vice versa) (Auto-reverse). To eject the tape during playback, press the button [4].
- A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.
- Do not try to eject the cassette immediately after insertion, as it will cause malfunction. Wait a few seconds.
- Loose tapes should be rewound with the aid of a pencil and unevenly wound tapes rewound with the use of the fast forward function.



## 4. CONNECTING THE UNITS

- Be sure to eject the tape when the vehicle's ignition is turned OFF. Leaving the tape in the unit can deform the pinch roller causing wow and flutter during tape playback.

### Changing Program

Push the fast forward and rewind buttons [7] together to switch from one side of the tape to the other (from Side A to Side B or vice versa).

### Using Fast Forward and Rewind

Press the fast forward button (the right side of button [7] shown in Fig. 1) to advance the tape at high speed and the rewind button (the left side of button [7]) for high speed return. In fast-forward, the tape automatically switches from one side to the other when it reaches the end of the tape, and begins play from the other side (Auto-reverse). In rewind, the tape automatically starts play after rewinding all the way back to the beginning of the tape (Auto-replay). When you release fast forward / rewind, lightly press button [7] located on the opposite side of the one you pressed to fast forward or rewind.

### Note:

- This unit is for vehicles with a 12-volt battery and negative grounding. Before installing it in a recreational vehicle, truck, or bus, check the battery voltage.
- To avoid shorts in the electrical system, be sure to disconnect the battery  $\ominus$  cable before beginning installation.
- Refer to the owner's manual for details on connecting the various cords of the power amp and other units, then make connections correctly.
- Secure the wiring with cable clamps or adhesive tape. To protect the wiring, wrap adhesive tape around them where they lie against metal parts.
- Route and secure all wiring so it cannot touch any moving parts, such as the gear shift, handbrake, and seat rails. Do not route wiring in places that get hot, such as near the heater outlet. If the insulation of the wiring melts or gets torn, there is a danger of the wiring short-circuiting to the vehicle body.
- Do not shorten any leads. If you do, the protection circuit may fail to work when it should.
- Never feed power to other equipment by cutting the insulation of the power supply lead of the unit and tapping into the lead. The current capacity of the lead will be exceeded, causing overheating.

- Don't pass the orange lead through a hole into the engine compartment to connect to the battery. This will damage the lead insulation and cause a very dangerous short.
- Replace fuses only with the types stipulated on the fuse holder.

### • KE-1303QR, KE-2850QR

#### 2-speaker system (Fig. 4)

#### 4-speaker system (Fig. 5)

1. Antenna jack
2. Black (ground)  
To vehicle (metal) body.
3. Red  
To electric terminal controlled by ignition switch (12 V DC) ON / OFF.
4. Fuse holder
5. Blue  
Auto-antenna relay control terminal (Max. 300 mA 12 V DC).
6. Green
7. Gray
8. Green / red
9. Gray / red
10. Black
11. Left speaker
12. Right speaker
13. Front / left speaker
14. Front / right speaker
15. Rear / left speaker
16. Rear / right speaker
17. Not connected to anything for 2-speaker system.

### • KE-1800QR, KE-2800QR, KE-2800B

#### 2-speaker system (Fig. 6)

#### 4-speaker system 1 (Fig. 7)

#### 4-speaker system 2 (Fig. 8)

1. Antenna jack
2. Black (ground)  
To vehicle (metal) body.
3. Red  
To electric terminal controlled by ignition switch (12 V DC) ON / OFF.
4. Fuse holder
5. Blue  
To system control terminal of the power amp or Auto-antenna relay control terminal (Max. 300 mA 12 V DC).
6. Blue
7. Rear out
8. Red
9. White
10. Connecting cords with RCA pin plugs (sold separately)
11. Power amp (sold separately)
12. Green
13. Gray
14. Green / red
15. Gray / red
16. Black
17. Left speaker
18. Right speaker
19. Front / left speaker
20. Front / right speaker
21. Rear / left speaker
22. Rear / right speaker
23. Not connected to anything for 2-speaker system.
24. No connection in this type of system.

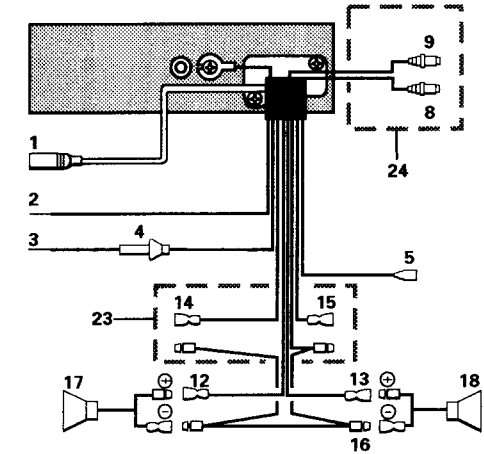


Fig. 6

### KE-1303QR, KE-2850QR

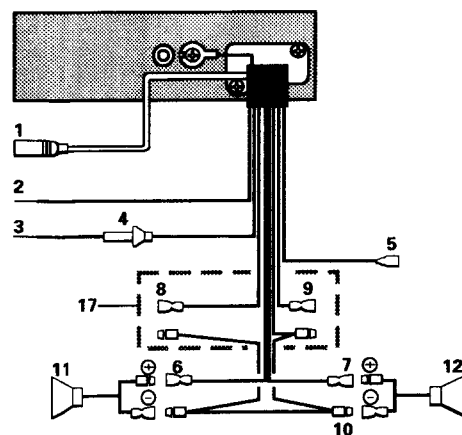


Fig. 4

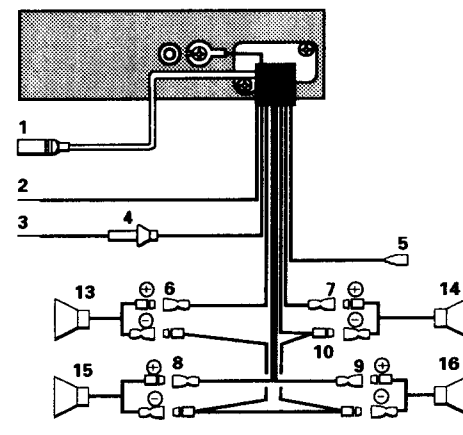


Fig. 5

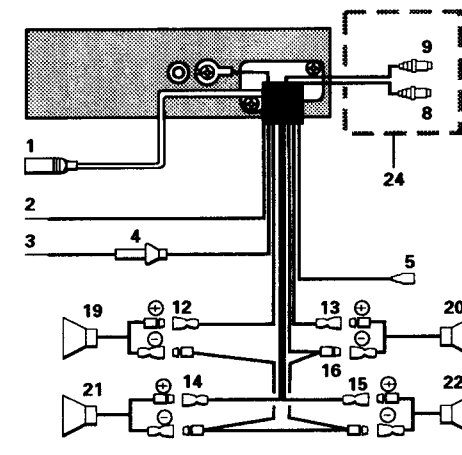


Fig. 7

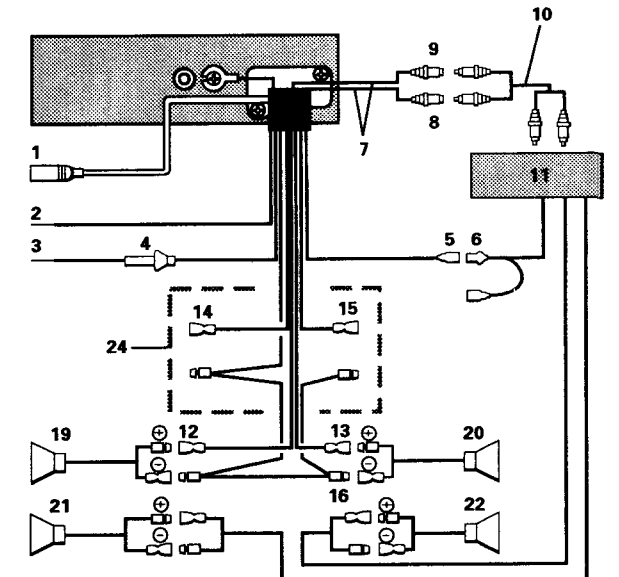


Fig. 8

- Connect to the front speakers with the green and gray leads. If you connect with the green/red and gray/red leads, this unit's fader control will not operate.

## 5. BLOCK DIAGRAM

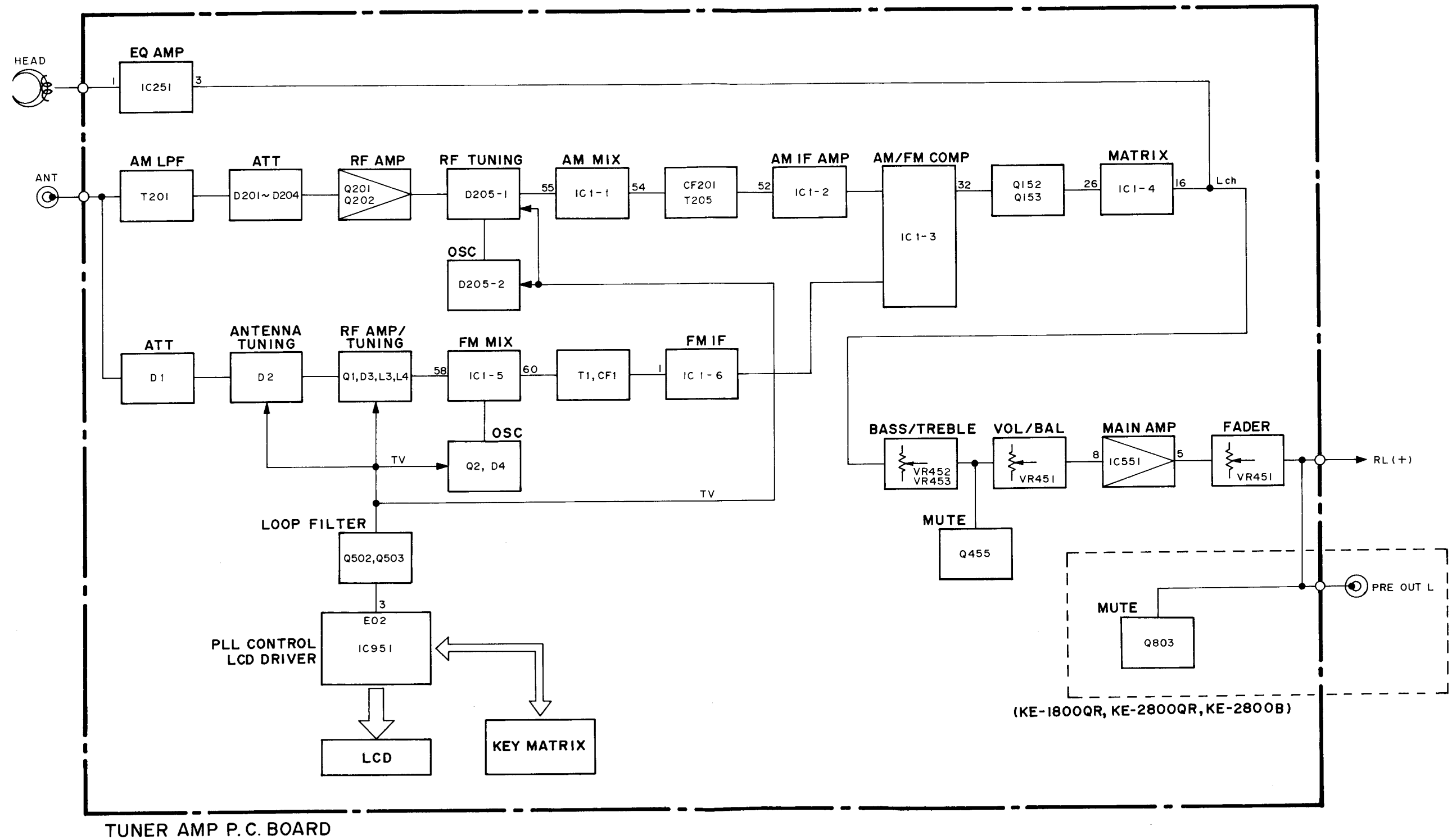


Fig. 9

## 6. DISASSEMBLY

### ● Removing the Case

1. Insert and turn a screwdriver to remove the case.
2. Raise the case to remove.

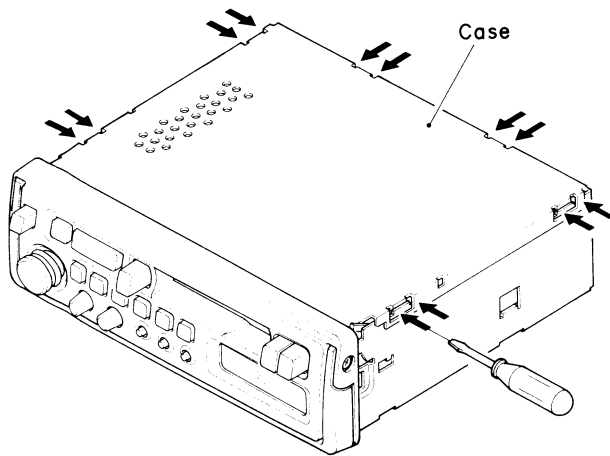


Fig. 10

### ● Removing the Handle

1. Remove the two screws, and then remove the handle.

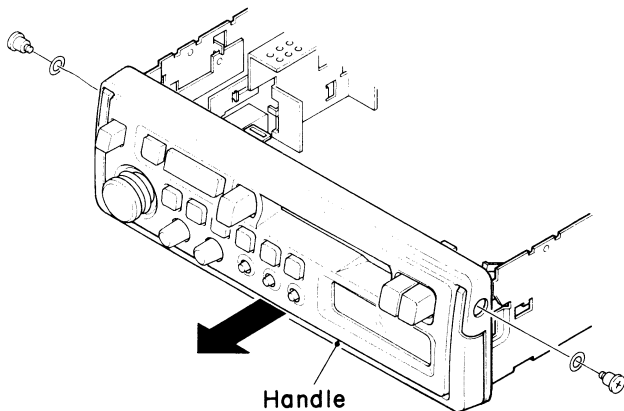


Fig. 11

### ● Removing the Grille Assy

1. Remove the two knobs.
2. Press the tabs at four locations, and then pull out the grille assy.

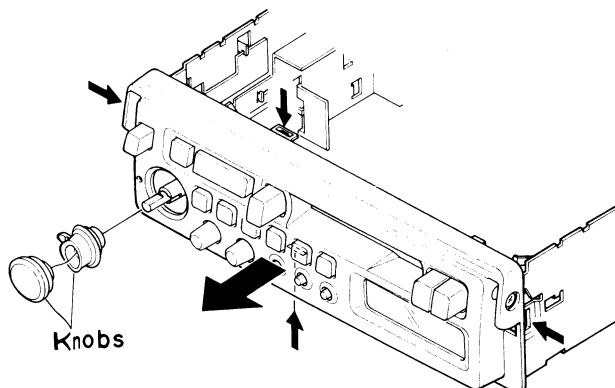


Fig. 12

### ● Removing the Cassette Mechanism Assy

1. Disconnect the connector.
2. Remove the four screws A and four screws B.
3. Remove the cassette mechanism assy.

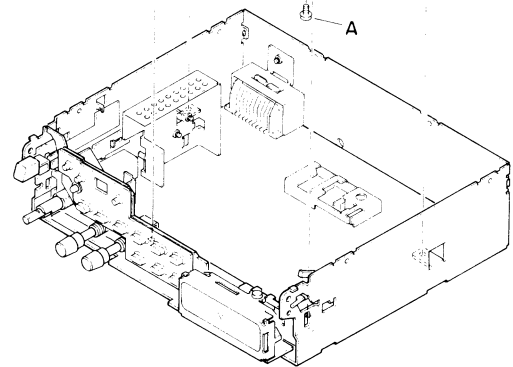
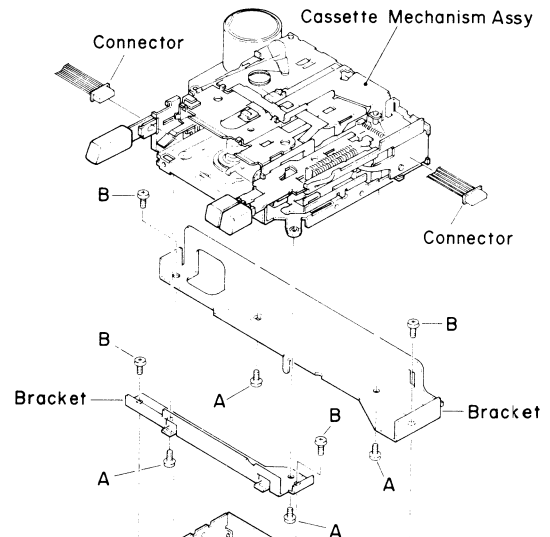


Fig. 13

### ● Removing the Tuner Amp Unit

1. Remove the four screws C.
2. Raise up tuner amp unit to remove it from the chassis unit.

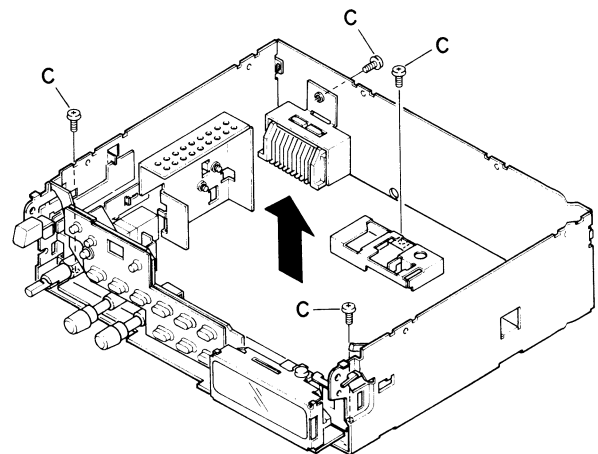


Fig. 14

7. ADJUSTMENT

NOTICE:  
Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.  
Z: Output impedance of SSG.

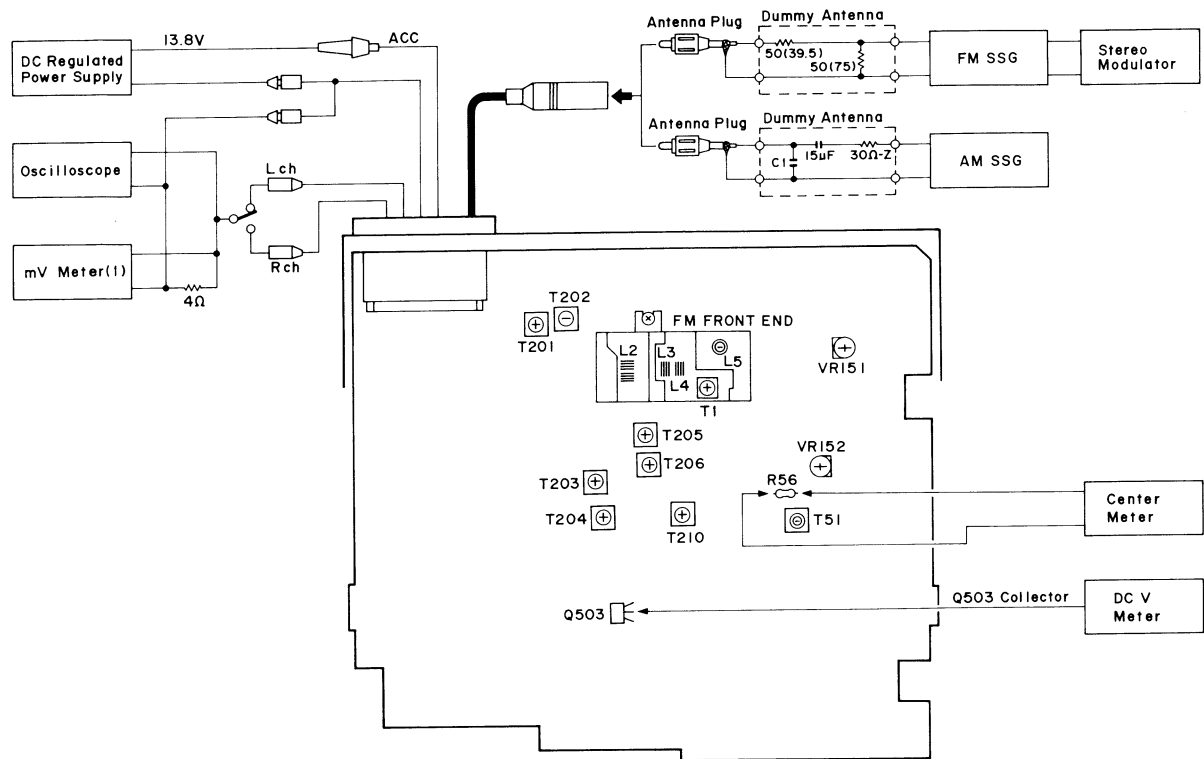


Fig. 15

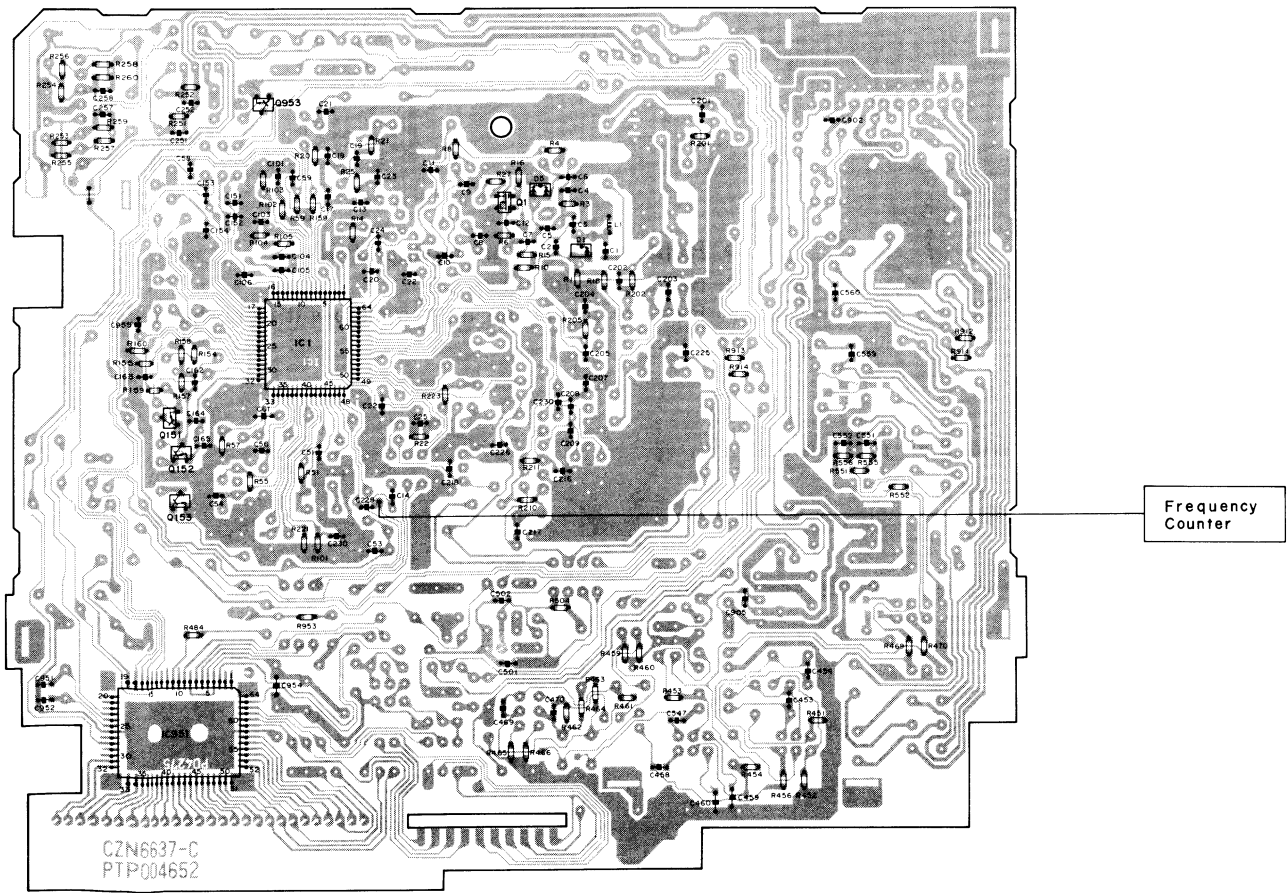


Fig. 16

## FM ADJUSTMENT

\*1 Stereo MOD.: Pilot=10%

\*2 Stereo MOD.: 1kHz, L+R=90%, Pilot=10%

|              | No. | FM SSG(400Hz, 100%) |             | Displayed Frequency (MHz) | Adjusting Point | Adjustment Method (Switch Position)       |
|--------------|-----|---------------------|-------------|---------------------------|-----------------|---|
|              |     | Frequency (MHz)     | Level (dBf) |                           |                 |   |
| Tuning Volt  | 1   | —                   | —           | 107.9 (UC)<br>108.0 (ES)  | L5              | DC V Meter: 6.5±0.2V                      |
| Tracking     | 1   | 98.1                | 15          | 98.1                      | L2, L4          | mV Meter(1): Maximum                      |
|              | 2   | 98.1                | 15          | 98.1                      | T1              | mV Meter(1): Maximum                      |
| IF           | 1   | 98.1<br>Unmodulated | 65          | 98.1                      | T51             | Center Meter: 0                           |
| Pilot Cancel | 1   | 98.1 *1             | 65          | 98.1                      | VR151           | mV Meter(1): Minimum<br>(MPX Filter: OFF) |
| ARC          | 1   | 98.1 *2             | 40          | 98.1                      | VR152           | mV Meter(1): Separation<br>5dB            |

## AM ADJUSTMENT

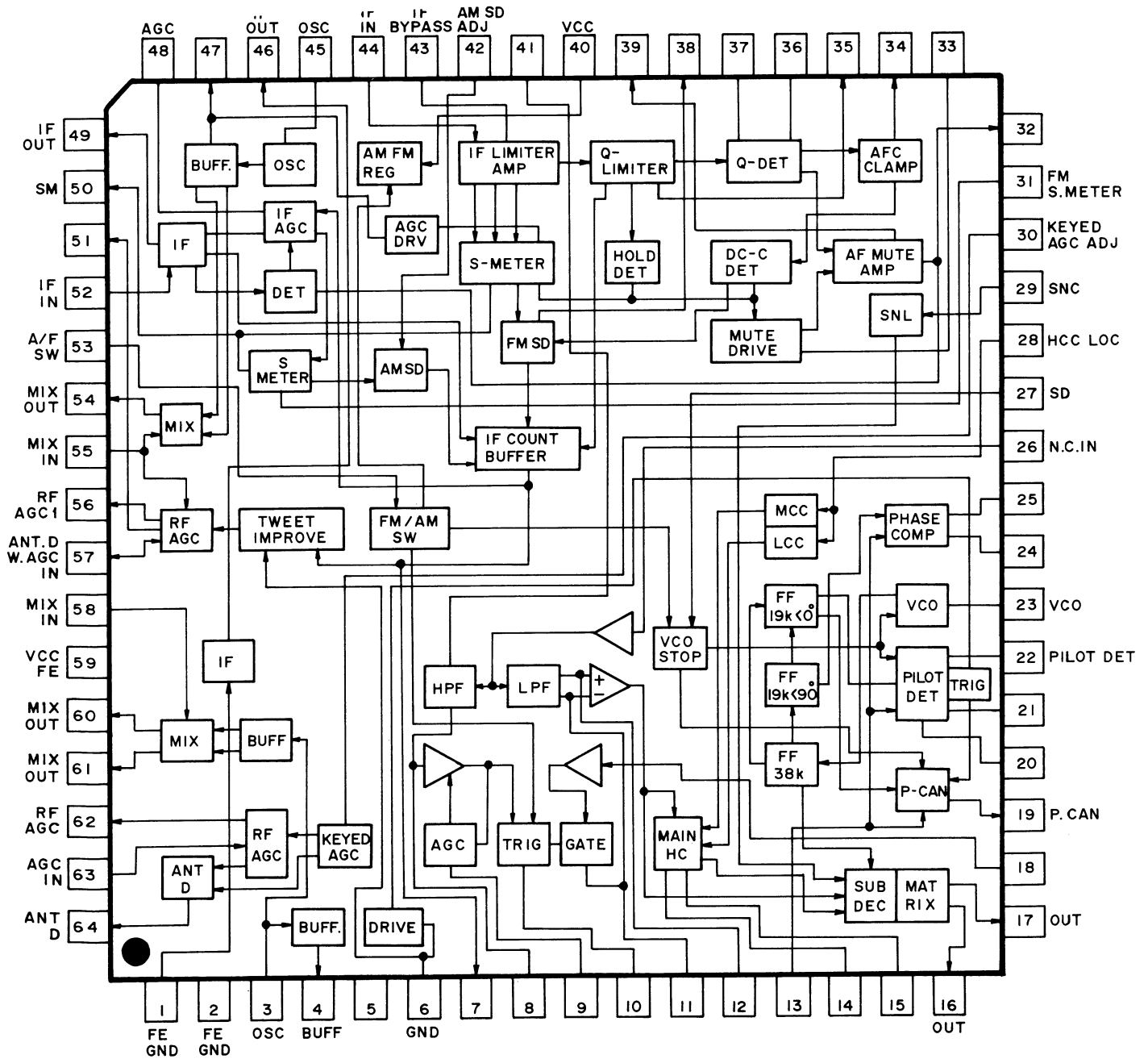
\*3: ES model when tuning step at 9kHz.

|             | No. | AM SSG (400Hz, 30%) |              | Displayed Frequency (kHz) | Adjusting Point        | Adjustment Method (Switch Position) |
|-------------|-----|---------------------|--------------|---------------------------|------------------------|-------------------------------------|
|             |     | Frequency (kHz)     | Level (dBμV) |                           |                        |                                     |
| Tuning Volt | 1   | —                   | —            | 530<br>(531) *3           | T210                   | DC V Meter: 0.9±0.2V                |
| Tracking    | 1   | 1,000<br>(999) *3   | 20           | 1,000<br>(999) *3         | T203, 204,<br>205, 206 | mV Meter(1): Maximum                |

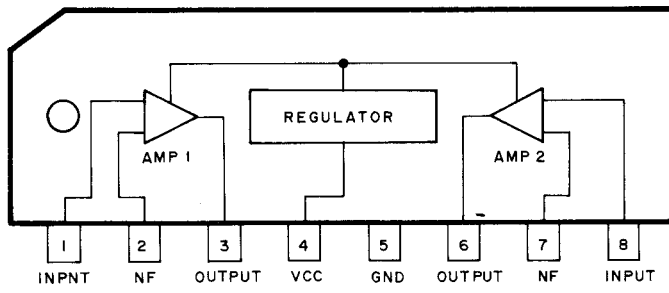
# KE-1303QR/1800QR/2800QR/2850QR/2800B

## • ICs

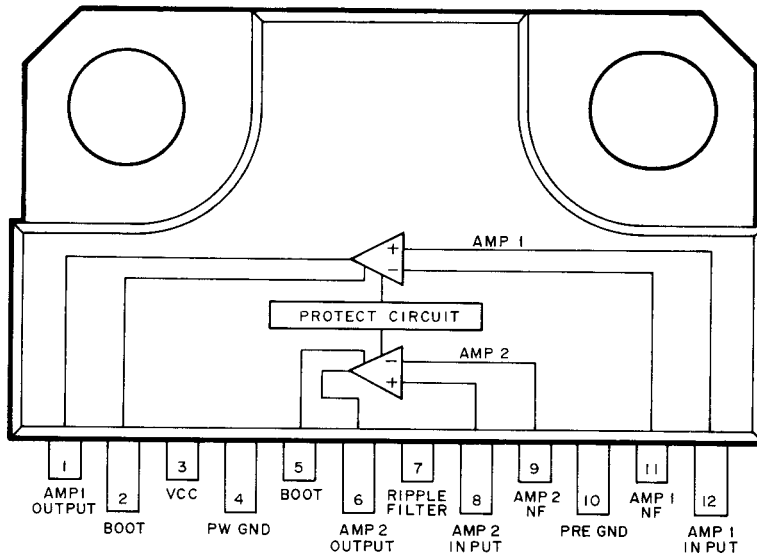
### LA1883M



## LA3161P



## TA7281P



• Pin Function (PD4275B)

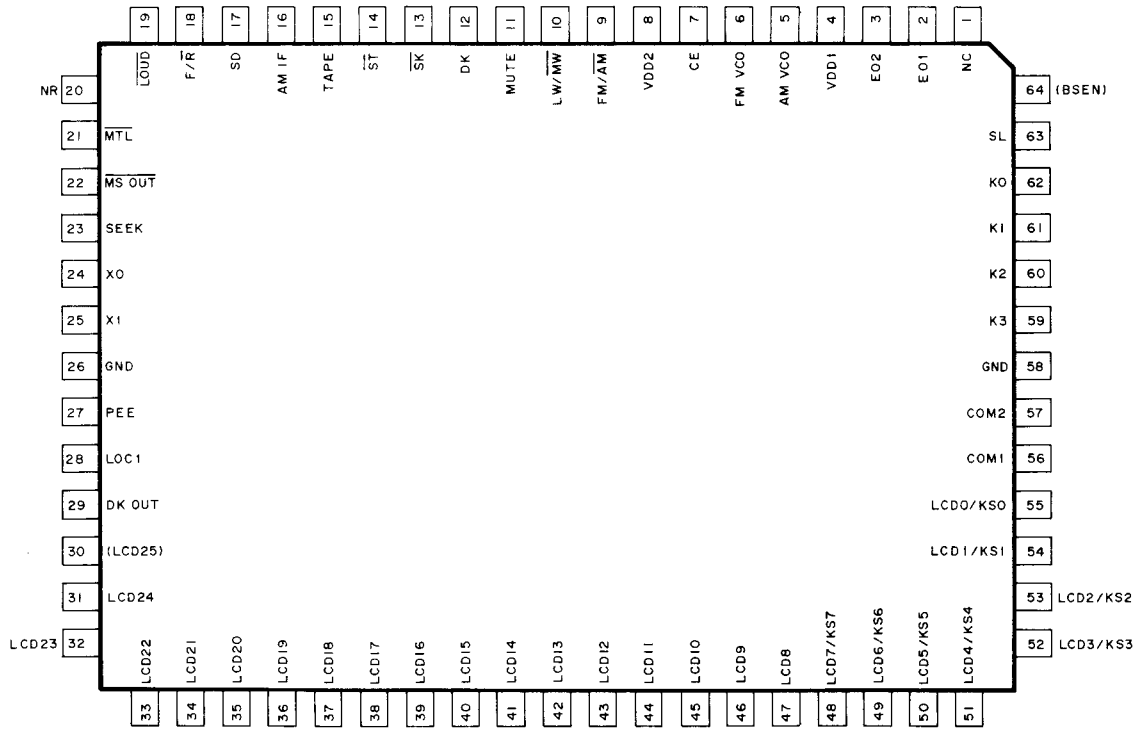
| Pin No. | Pin Name | I/O             | Output Format | Function and Operation  |
|---------|----------|-----------------|---------------|---|
| 1       | NC       |                 | C             | Not used  |
| 2       | EO1      | Output          | C (3)         | PLL error output pins   |
| 3       | EO2      |                 |               |   |
| 4       | VDD1     |                 |               | Device power supply pin   |
| 8       | VDD2     |                 |               |   |
| 5       | AMVCO    | Input           |               | AM local oscillator signal input pin  |
| 6       | FMVCO    | Input           |               | FM local oscillator signal input pin  |
| 7       | CE       | Input           |               | Chip enable input pin   |
| 9       | FM/AM    | Output          | C             | FM/AM band select pin "H": FM "L": AM   |
| 10      | LW/MW    | Output          | C             | Loop filter switching output pin "H": LW  |
| 11      | MUTE     | Output          | C             | Mute output pin "H": ON   |
| 12      | DK       | Input           |               | DK signal input pin   |
| 13      | SK       | Input           |               | SK signal input pin   |
| 14      | ST       | Input           |               | Stereo broadcast detection signal input pin "L": Stereo indicator is displayed      |
| 15      | TAPE     | Input           |               | Tape power ON/OFF input pin "H": ON   |
| 16      | AMIF     | Input           |               | AM IF signal input pin  |
| 17      | SD       | Input           |               | FM SD input "H": During broadcast reception   |
| 18      | F/R      | Input           |               | Tape motion signal input pin "H": Forward   |
| 19      | LOUD     | Input           |               | Loudness ON/OFF signal input pin "L": ON  |
| 20      | NC       | Output          | C             | Not used  |
| 21      | MTL      | Output          | C             | Tape METAL ON/OFF output pin "L": ON  |
| 22      | MSOUT    | Output          | C             | Tape MS ON/OFF output pin "L": ON   |
| 23      | SEEK     | Output          | C             | "H" level: SEEK, BSM, BSA and PSCAN   |
| 24      | XO       | Output<br>Input | C             | Quartz oscillator terminal  |
| 25      | XI       |                 |               |   |
| 26      | GND      |                 |               | GND terminal  |
| 27      | PEE      | Output          | C             | Alarm output pin  |
| 28      | LOC1     | Output          | C             | Halt sensitivity switching pin "L": DX SEEK (P. SCAN) "H": LOC SEEK                 |
| 29      | DKOUT    | Output          | C             | Control by DK (terminal #12) input signal "H": DK input signal is detected as 125Hz |
| 30      | NC       |                 |               | Not used  |

| Pin No. | Pin Name | I/O    | Output Format | Function and Operation            |
|---------|----------|--------|---------------|-----------------------------------|
| 31      | LCD24    | Output | C             | Segment signal output pins to LCD |
| 55      | LCD0     |        |               |                                   |
| 48      | KS7      | Output | C             | Key matrix strobe output pins     |
| 55      | KS0      |        |               |                                   |
| 56      | COM1     | Output | C             | Common signal output pins to LCD  |
| 57      | COM2     |        |               |                                   |
| 58      | GND      |        |               | Ground                            |
| 59      | K3       | Input  |               | Key matrix return input pins      |
| 62      | K0       |        |               |                                   |
| 63      | SL       | Input  |               | AM station level analog input pin |
| 64      | NC       |        | C             | Not used                          |

| Output format | Meaning         |
|---------------|-----------------|
| C             | C-MOS           |
| C (3)         | C-MOS (3 State) |

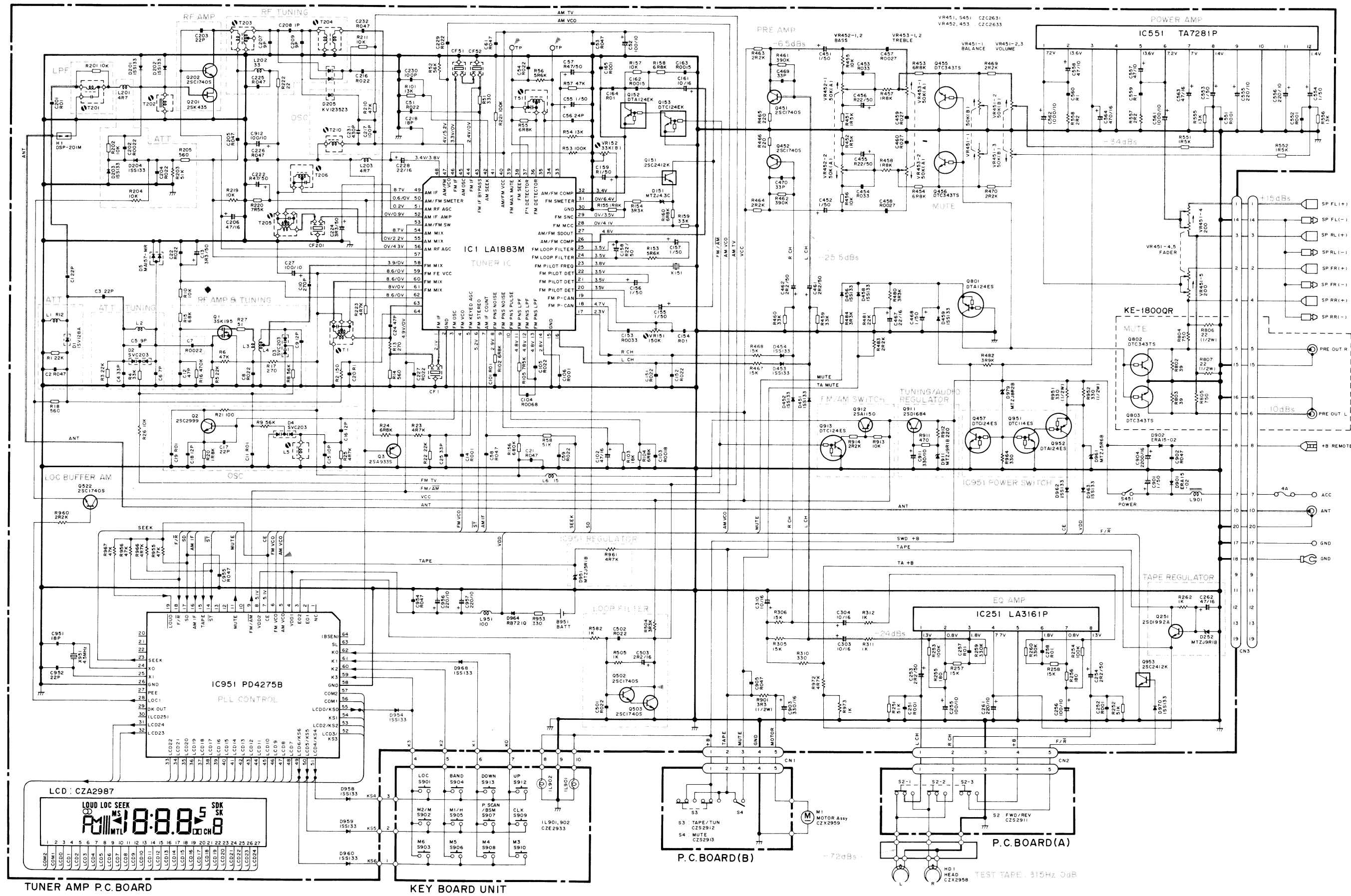
IC's marked by \* are MOS type.  
Be careful in handling them because they are very liable to be  
damaged by electrostatic induction.

\*PD4275B





## 8. SCHEMATIC CIRCUIT DIAGRAM (KE-1303QR/KE-1800QR)



7

8

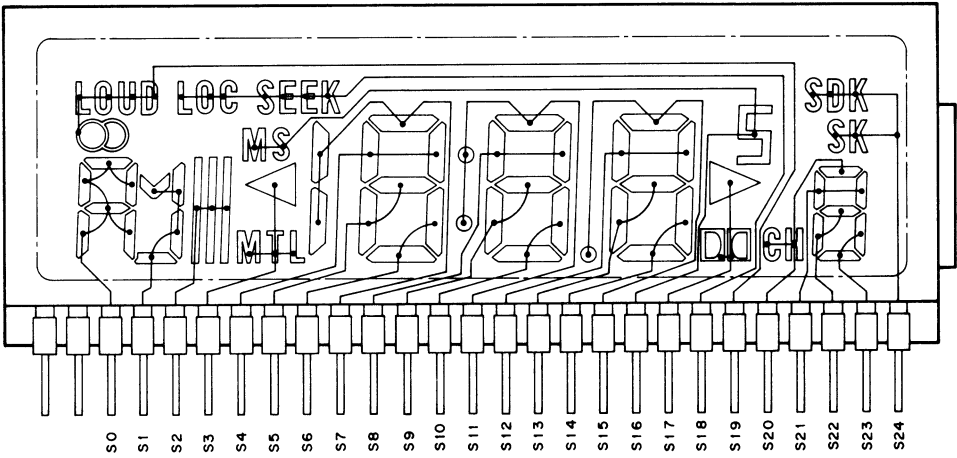
9

|                         |
|-------------------------|
| Tuner Amp Unit          |
| Consists of             |
| • Tuner Amp P. C. Board |

A

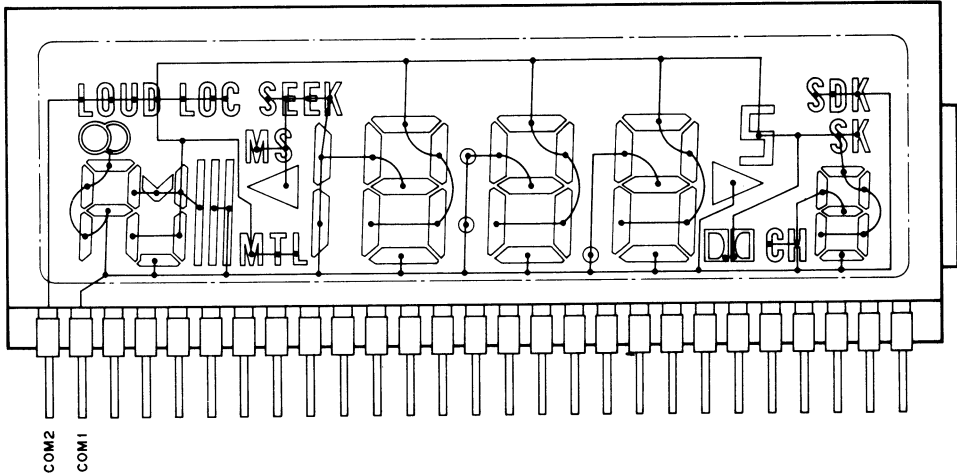
• LCD (CZA2987)

SEGMENT



B

COMMON



C

D

Fig. 17

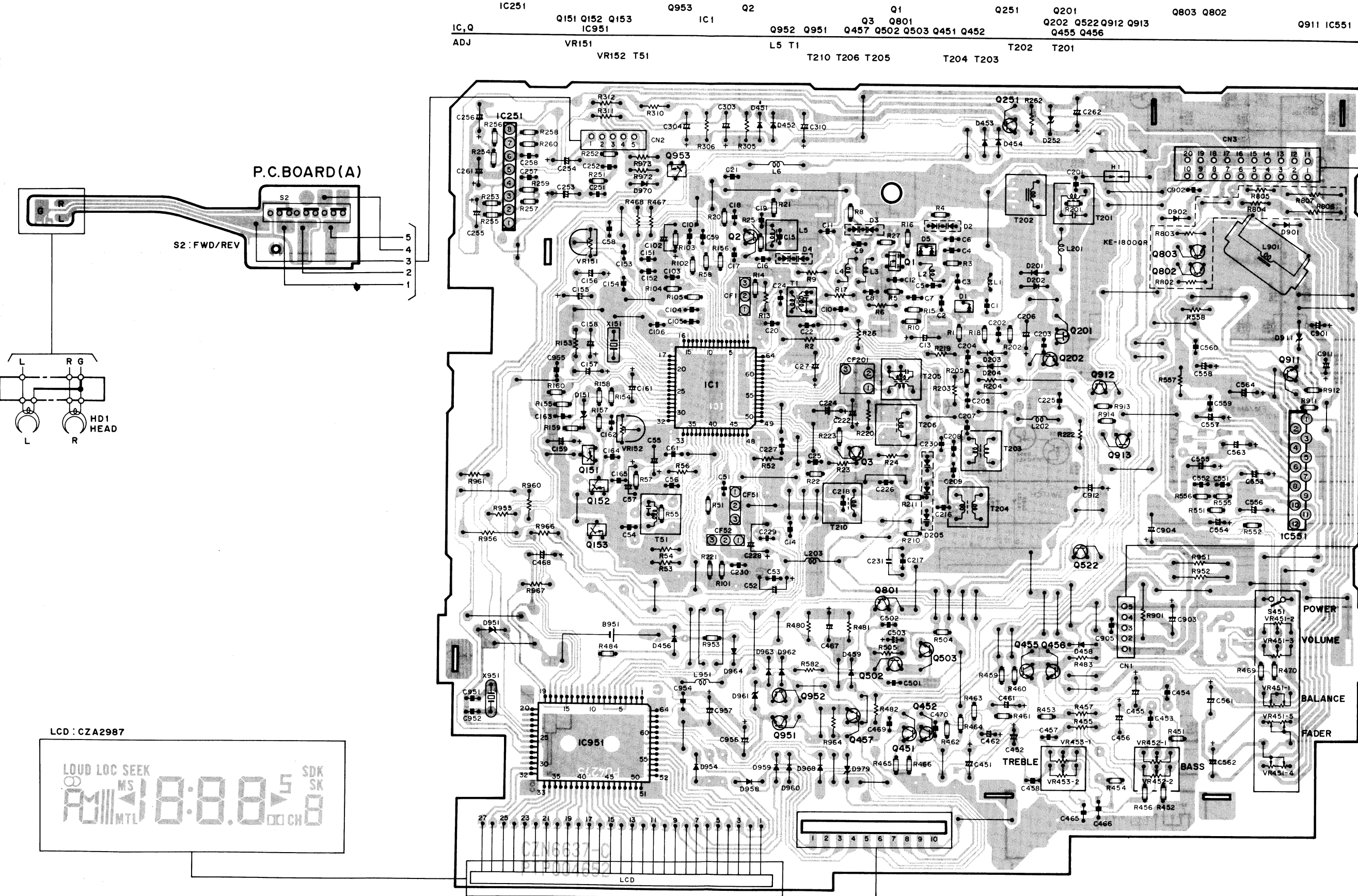
7

8

9

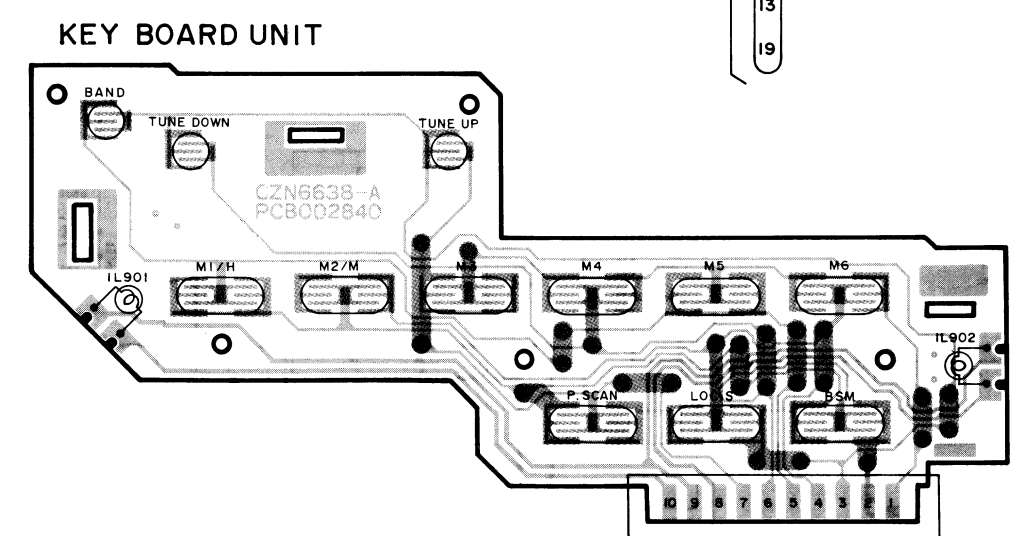
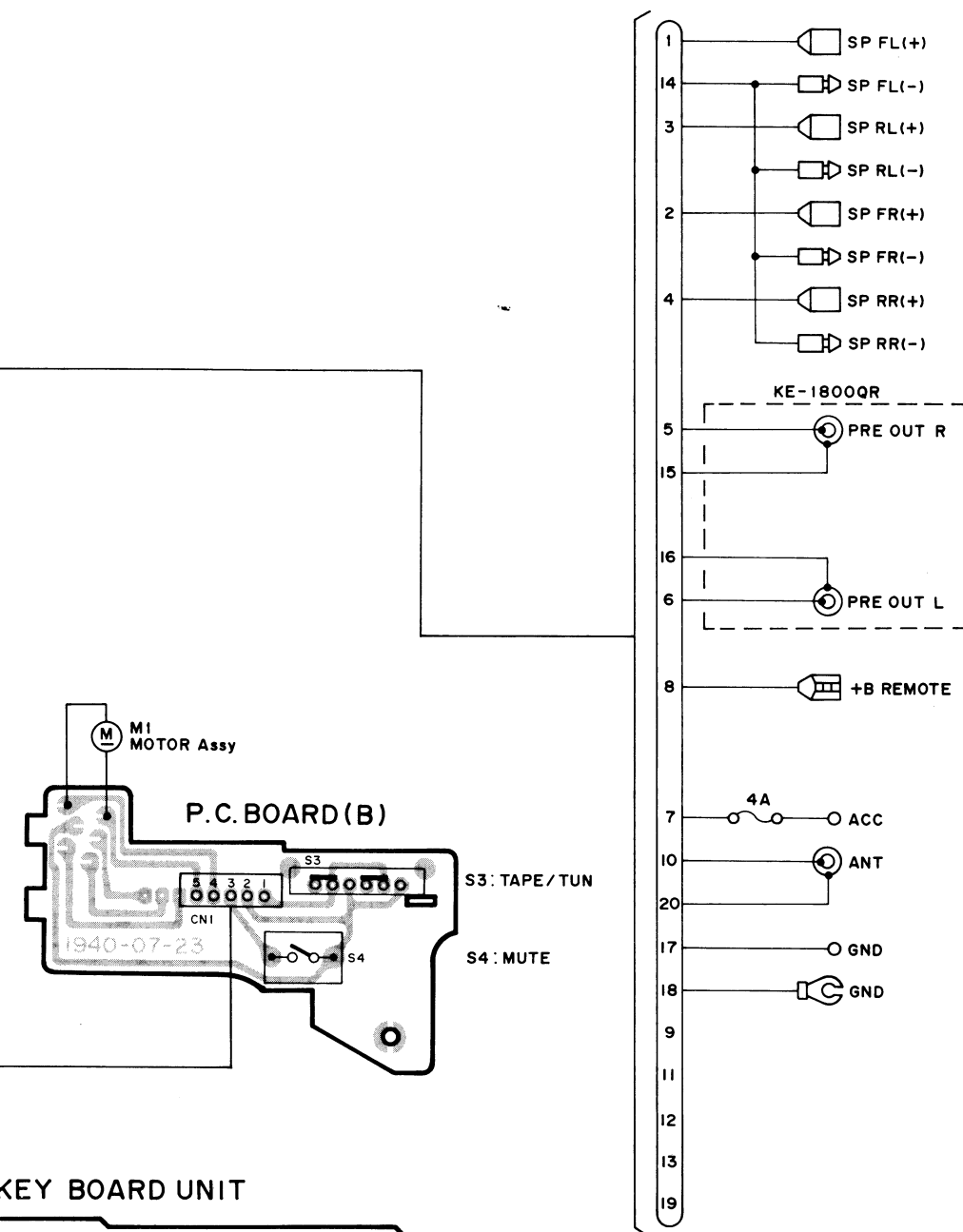
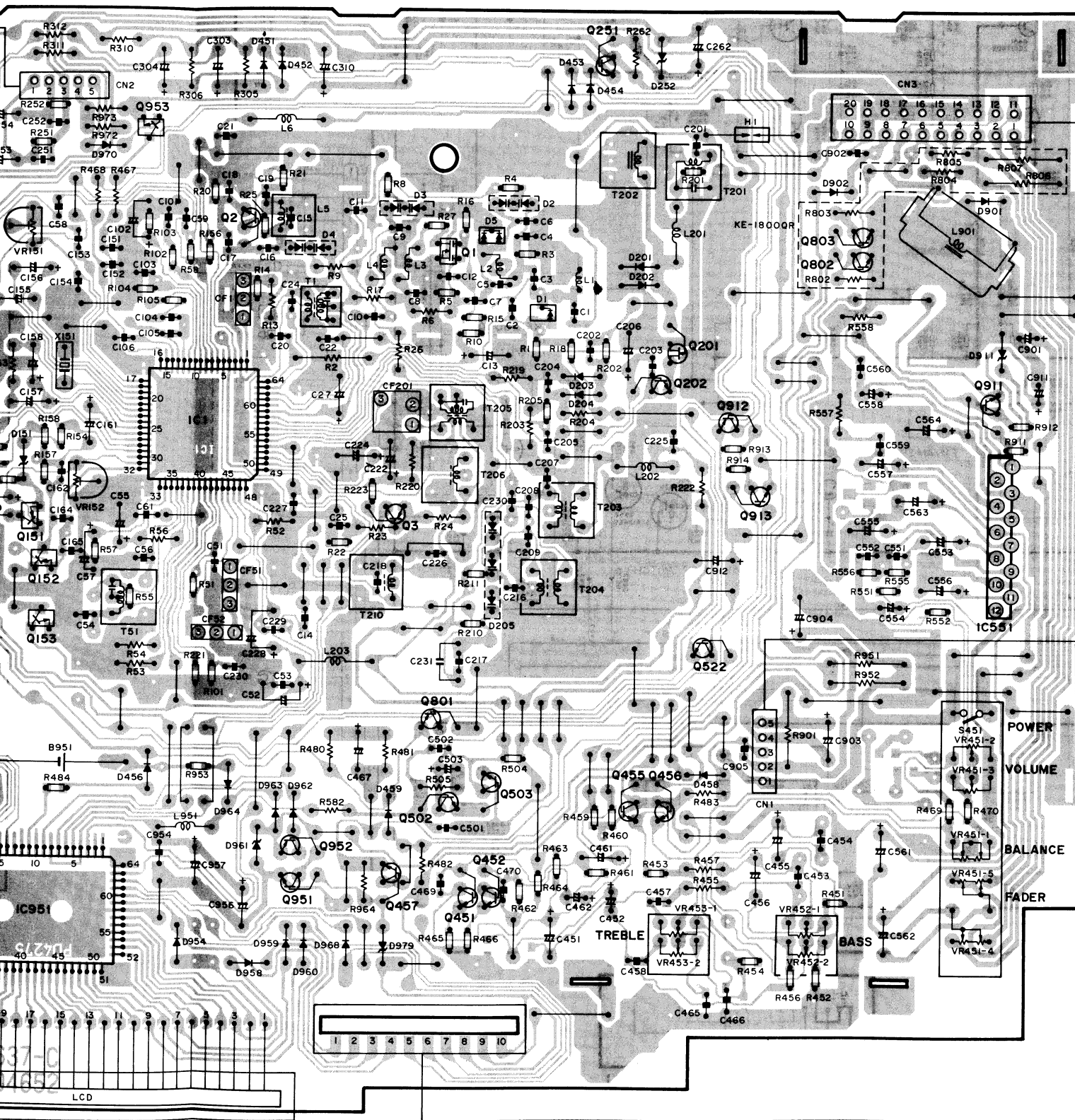
9. CONNECTION DIAGRAM (KE-1303QR/KE-1800QR)

TUNER AMP P.C. BOARD



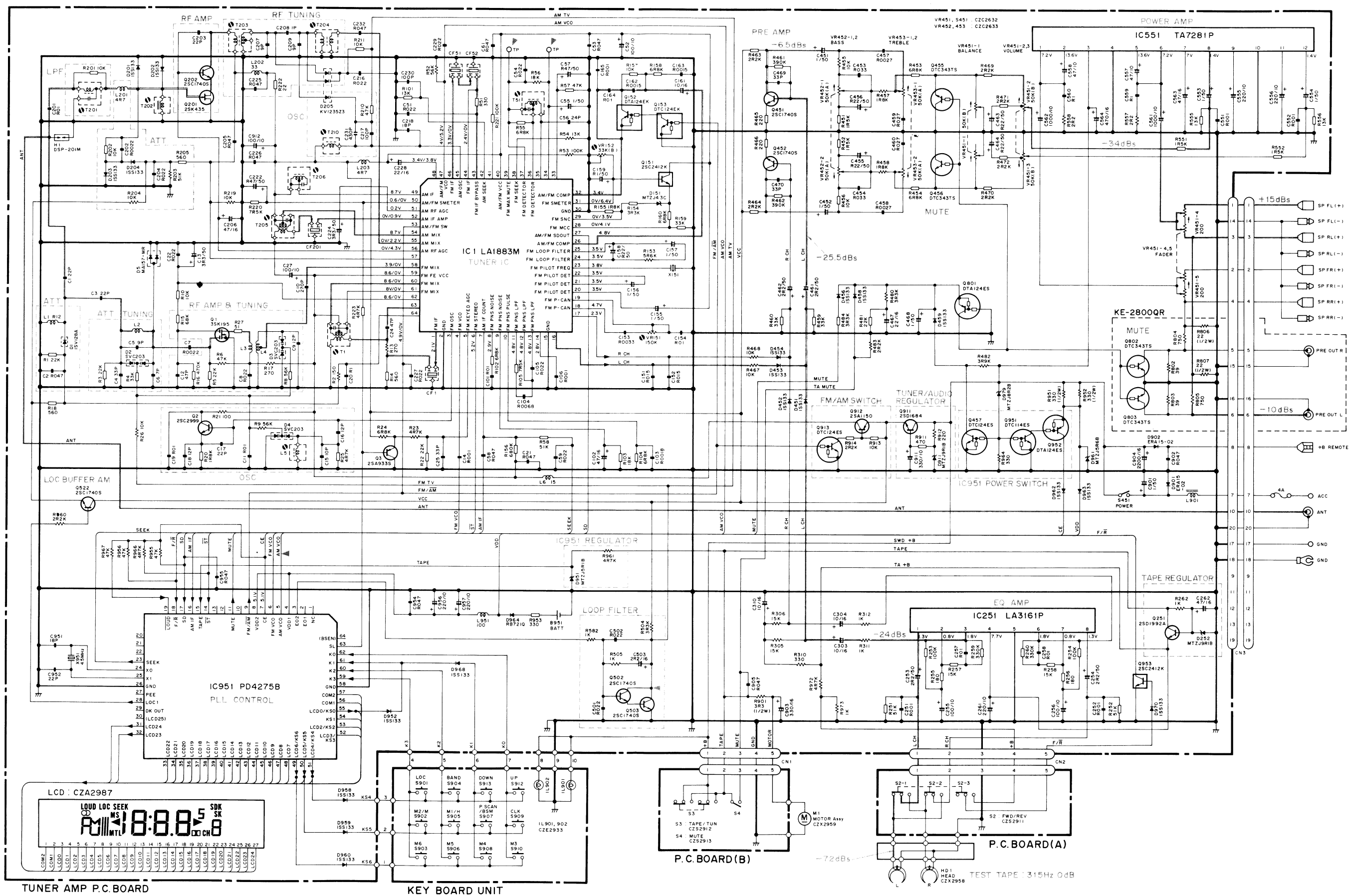


|       |           |                    |     |       |                |      |                                  |      |  |           |            |
|-------|-----------|--------------------|-----|-------|----------------|------|----------------------------------|------|--|-----------|------------|
|       | Q952      | Q152 Q153<br>IC951 | IC1 |       | Q952           | Q951 | Q801<br>Q457 Q502 Q503 Q451 Q452 | Q251 | Q201<br>Q202 Q522 Q912 Q913<br>Q455 Q456 | Q803 Q802 | Q911 IC551 |
| VR151 |           |                    |     | L5 T1 |                |      |                                  | T202 | T201                                     |           |            |
|       | VR152 T51 |                    |     |       | T210 T206 T205 |      | T204 T203                        |      |  |           |            |



**Fig. 18**

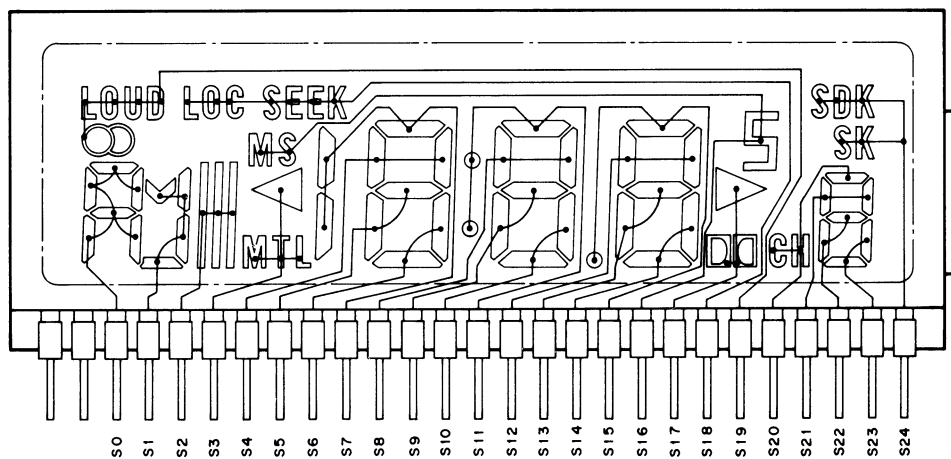
## 10. SCHEMATIC CIRCUIT DIAGRAM (KE-2800QR/KE-2850QR)



|                         |
|-------------------------|
| Tuner Amp Unit          |
| Consists of             |
| • Tuner Amp P. C. Board |

- LCD

### SEGMENT



### COMMON

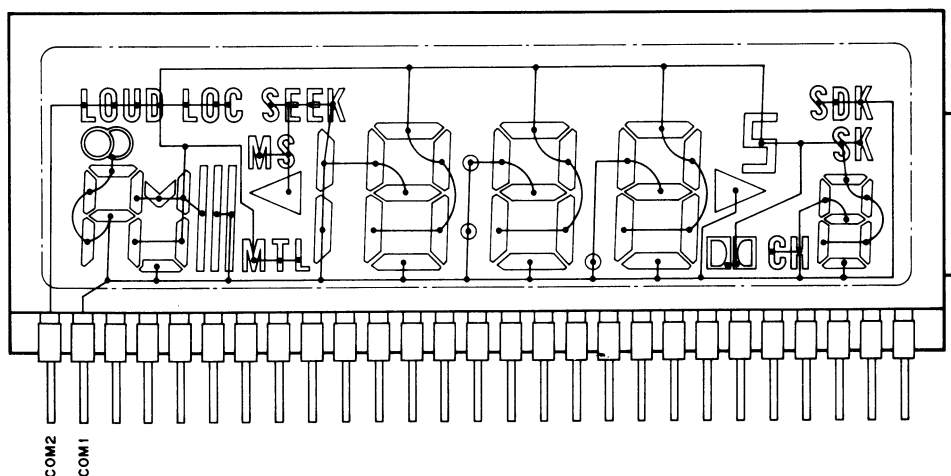


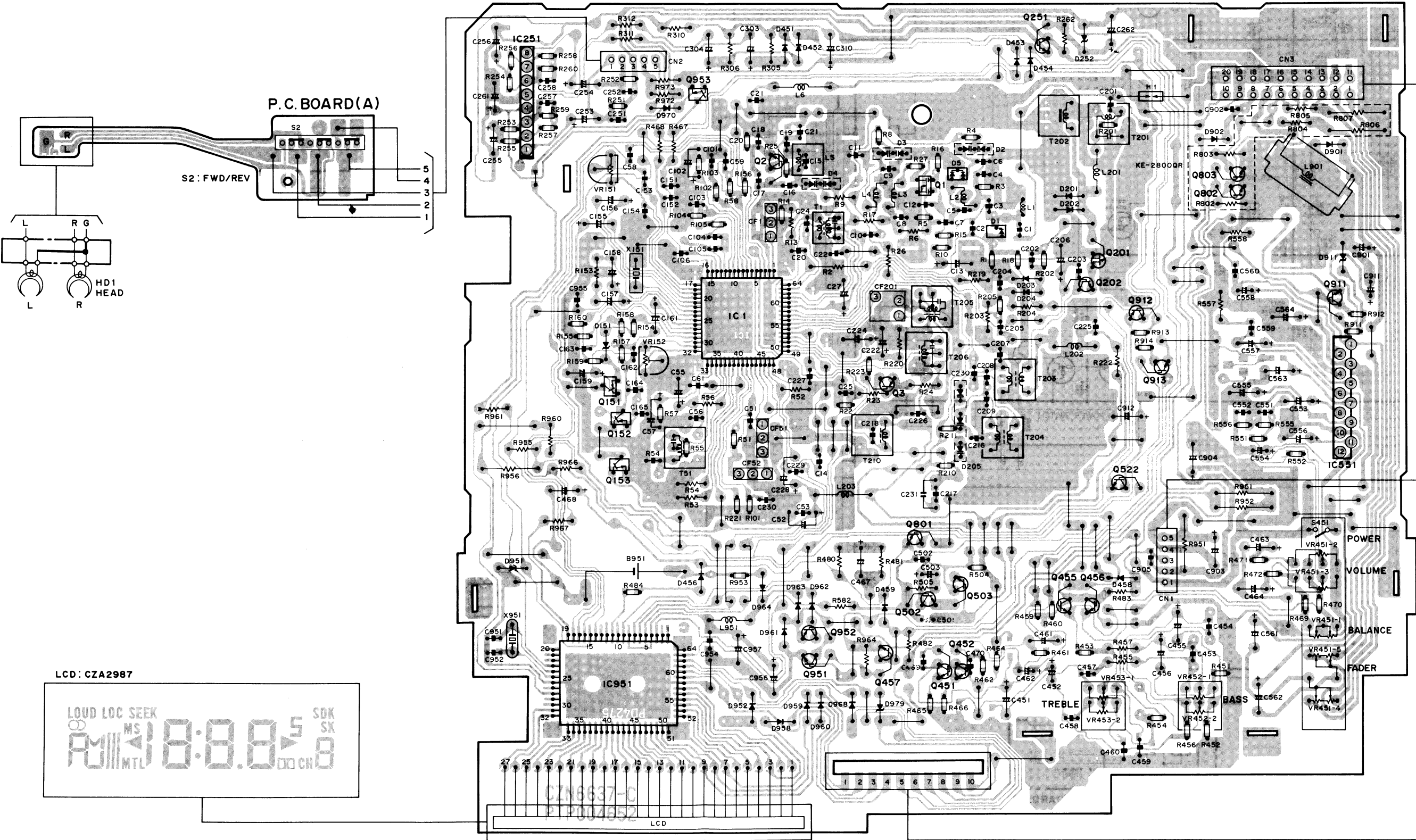
Fig. 19



11. CONNECTION DIAGRAM (KE-2800QR/KE-2850QR)

TUNER AMP P.C. BOARD

|       |       |                |      |                |           |                     |           |           |            |
|-------|-------|----------------|------|----------------|-----------|---------------------|-----------|-----------|------------|
| IC, Q | IC251 | Q151 Q152 Q153 | Q953 | Q2             | Q1        | Q251                | Q201      | Q803 Q802 | Q911 IC551 |
| ADJ   | VR151 | VR152 T51      | IC1  | L5 T1          | Q3 Q801   | Q202 Q522 Q912 Q913 | Q455 Q456 |           |            |
|       |       |                |      | T210 T206 T205 | T204 T203 | T202                | T201      |           |            |



1

2

3

25

4

5

6

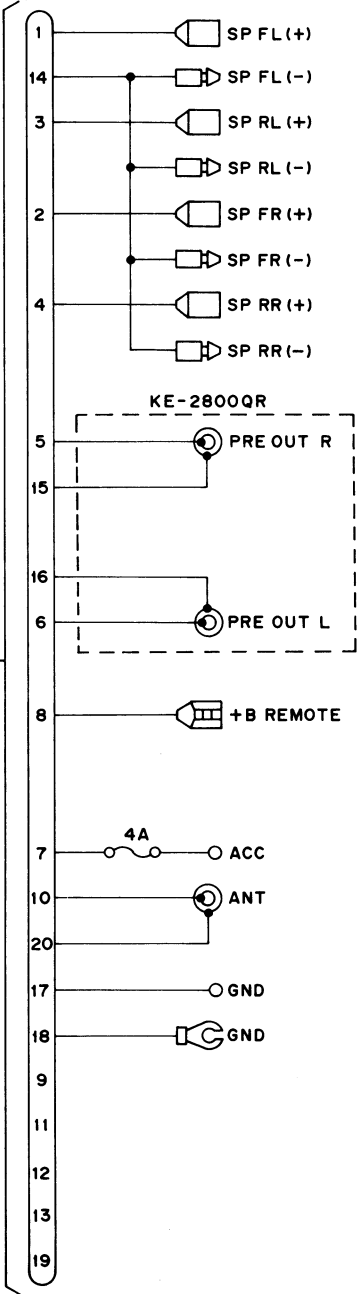
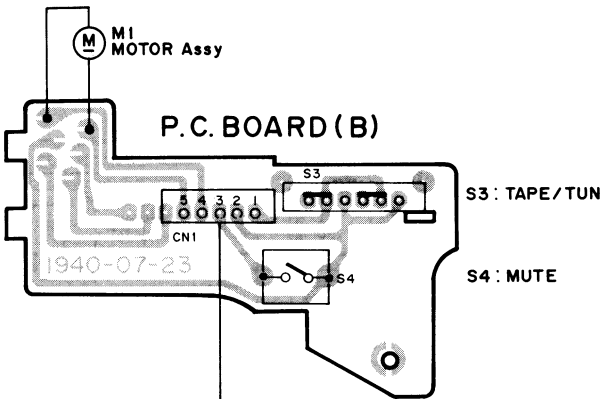
26

A

B

C

D



KEY BOARD UNIT

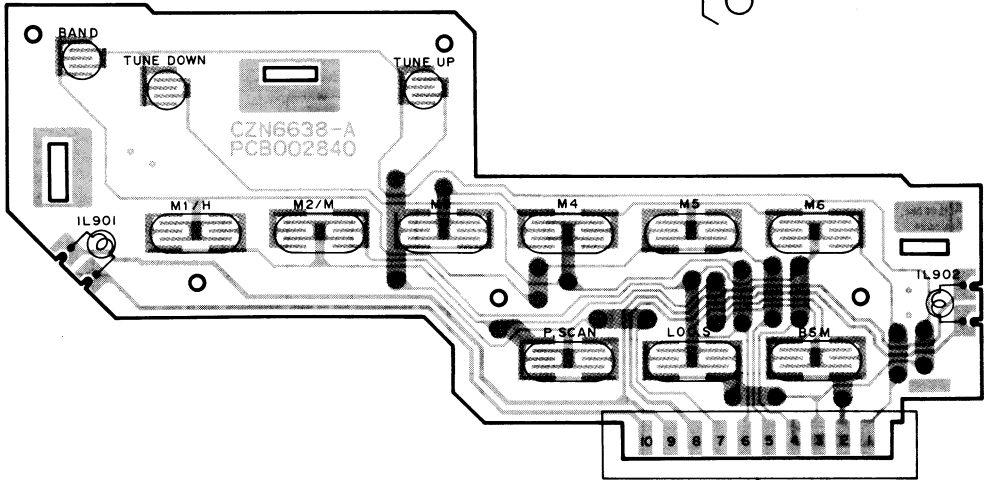
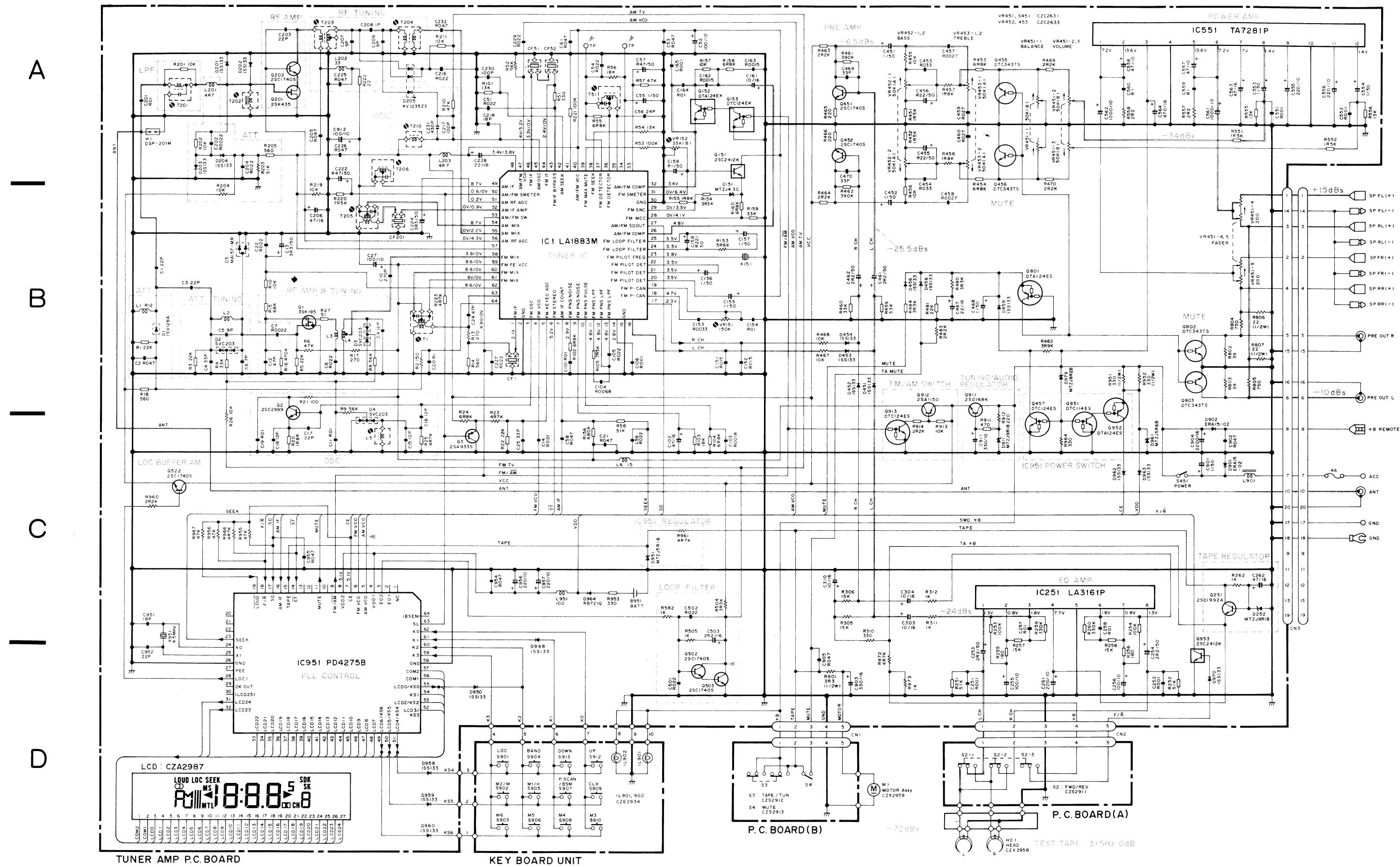


Fig. 20



## 12. SCHEMATIC CIRCUIT DIAGRAM (KE-2800B)

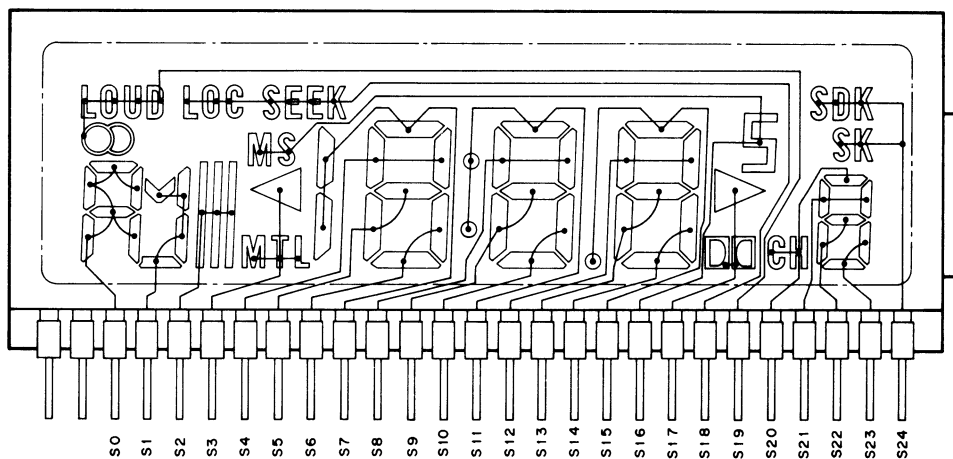


|                         |
|-------------------------|
| Tuner Amp Unit          |
| Consists of             |
| • Tuner Amp P. C. Board |

A

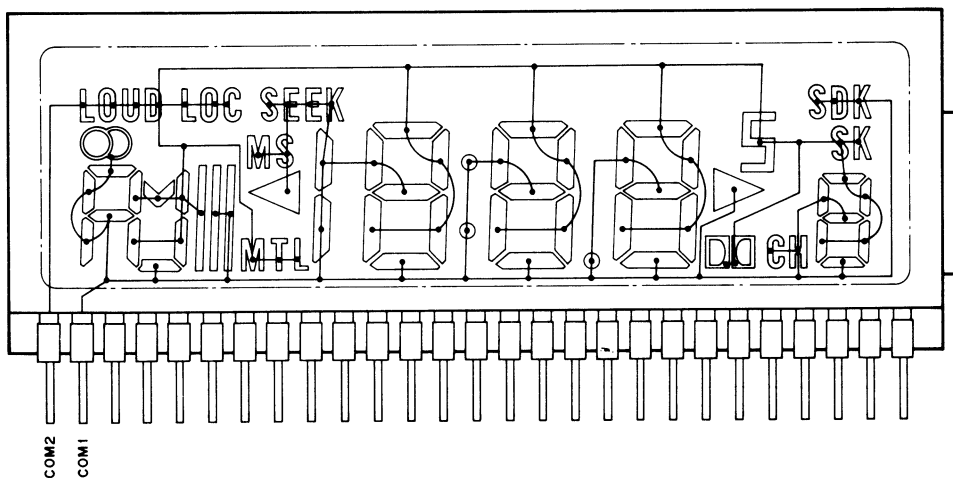
- LCD (CZA2987)

### SEGMENT



B

### COMMON



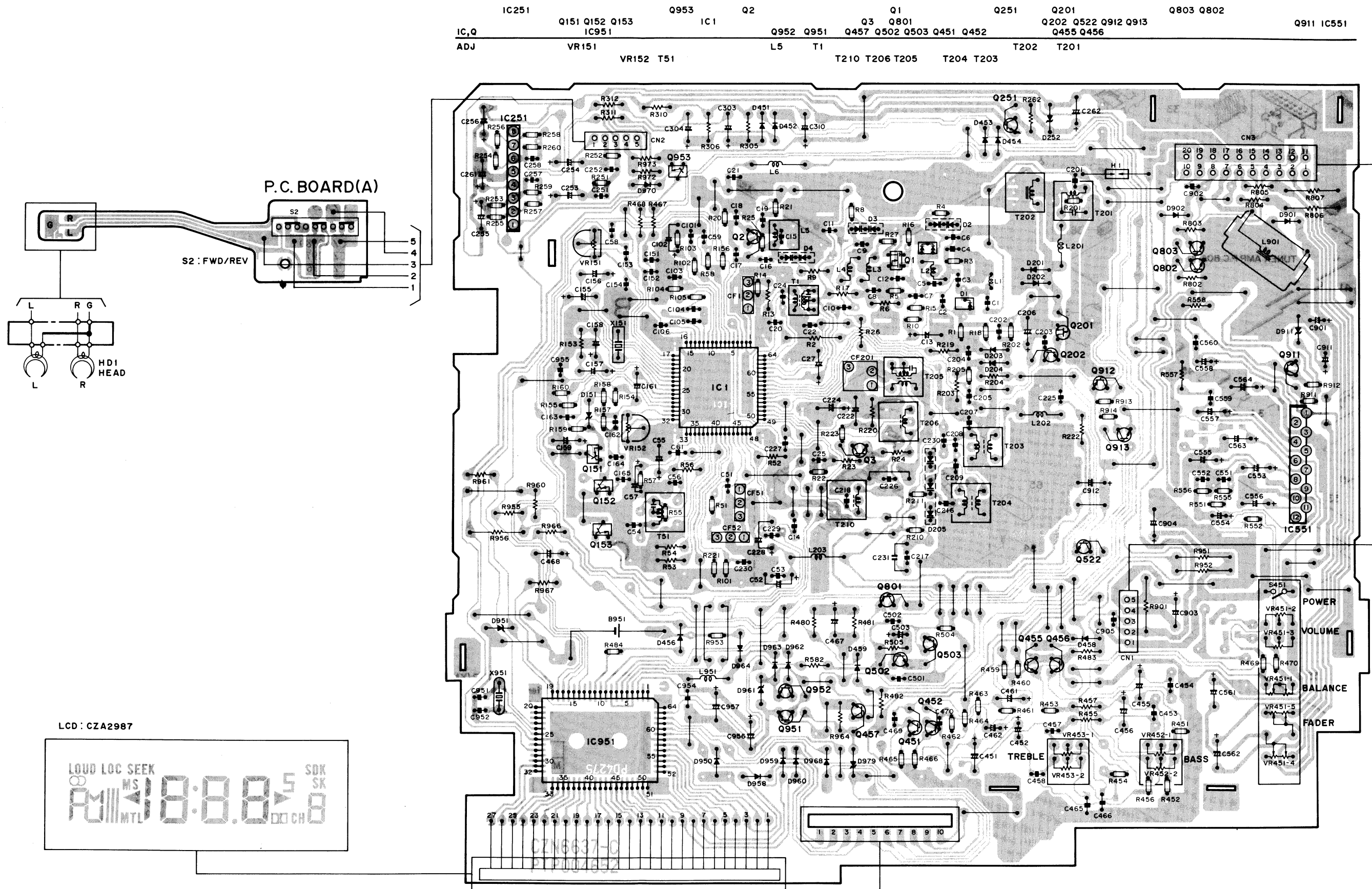
C

D

Fig. 21

### 13. CONNECTION DIAGRAM (KE-2800B)

## TUNER AMP P.C.BOARD





NER AMP P.C. BOARD

IC251 Q151 Q152 Q153 Q953 Q2 Q1 Q251 Q201 Q803 Q802 Q911 IC551  
IC1 Q952 Q951 Q457 Q502 Q503 Q451 Q452 Q202 Q522 Q912 Q913 Q455 Q456 T202 T201  
VR151 VR152 T51 L5 T1 T210 T206 T205 T204 T203

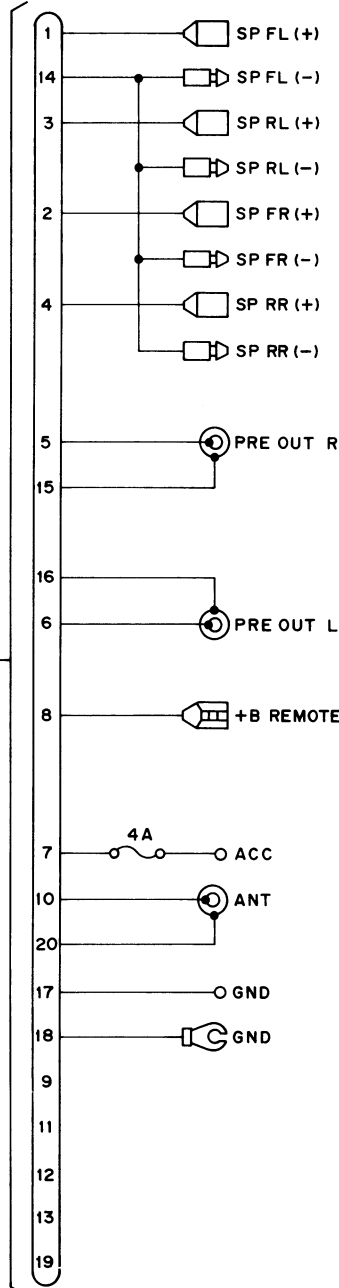
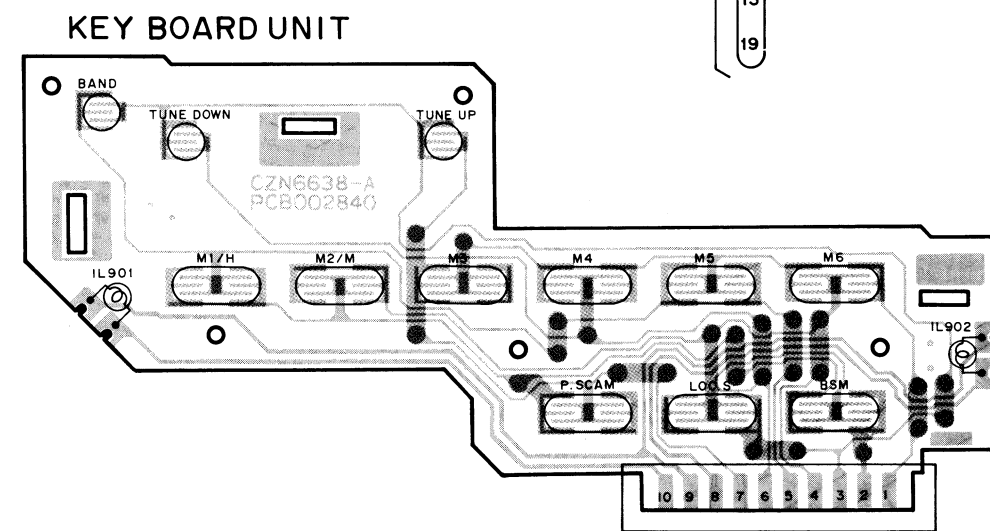
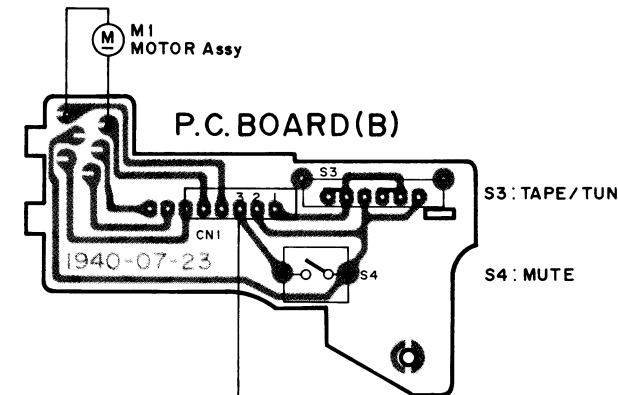
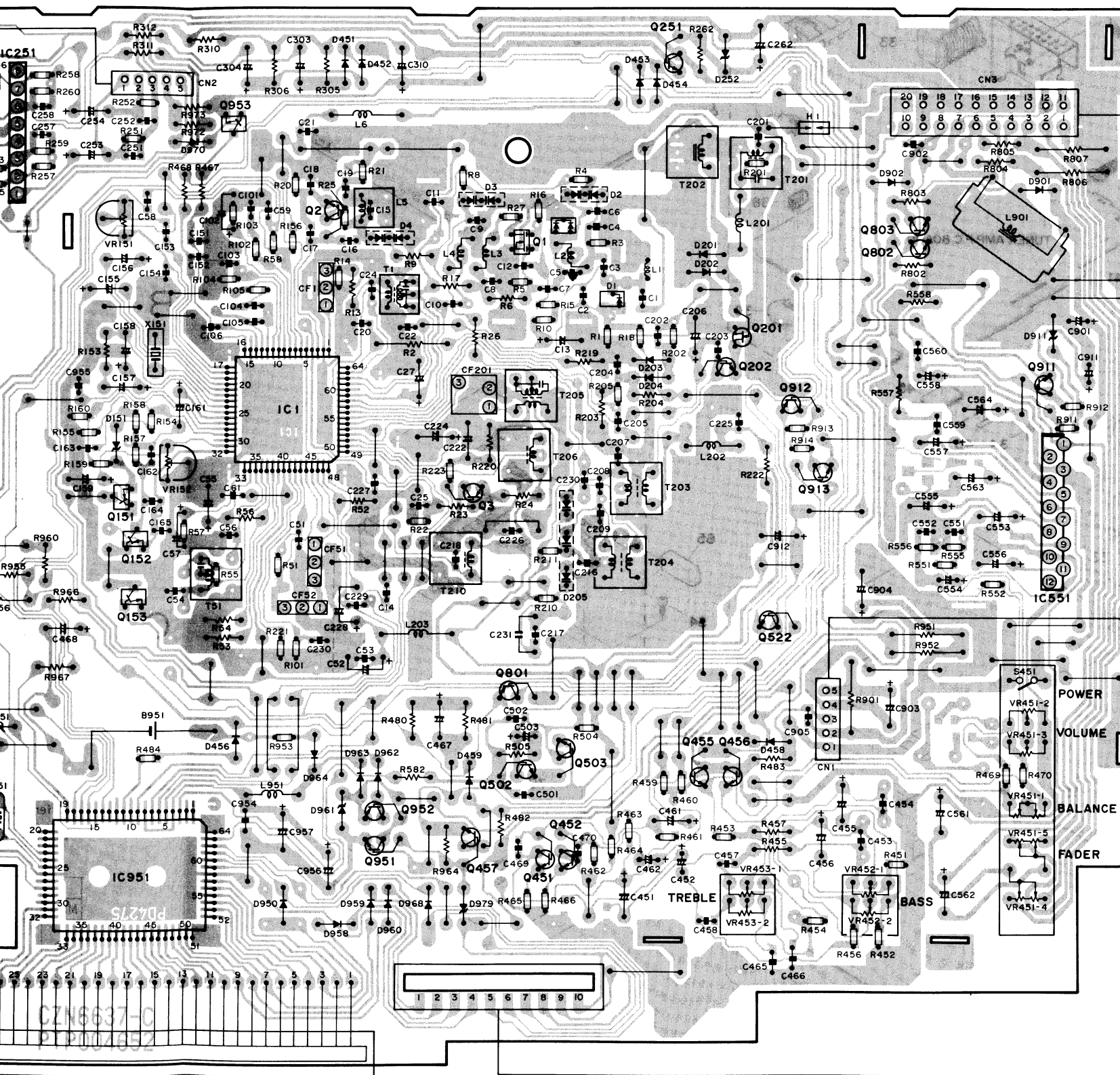


Fig. 22

# 14. CHASSIS EXPLODED VIEW

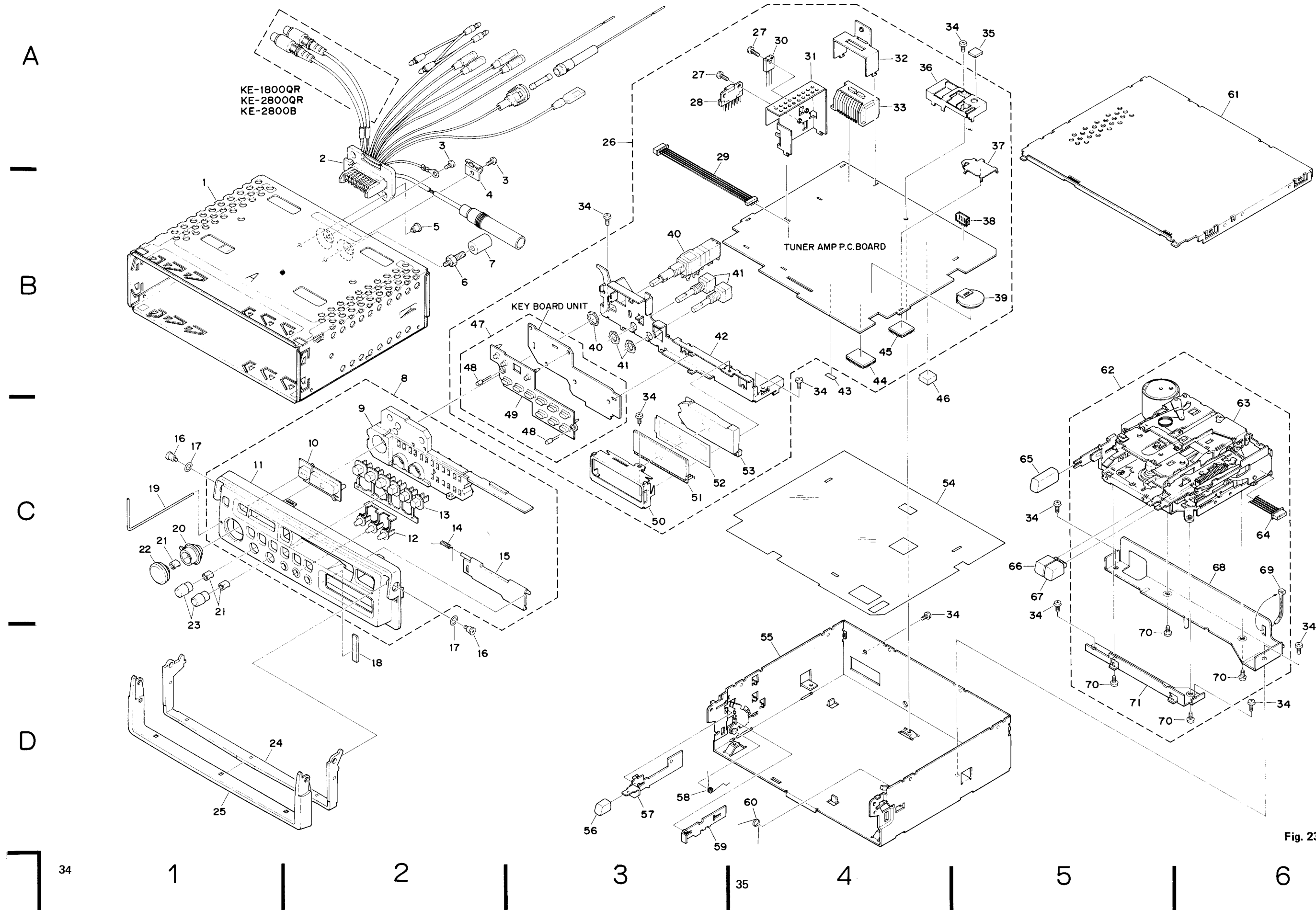


Fig. 23

NOTES:

- Parts marked by "\*" or "\*" are generally unavailable because they are not in our Master Spare Parts List.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

• Parts List (KE-1303QR/XMA/UC)

| Mark | No. | Description          | Part No.     | Mark | No. | Description             | Part No.     |
|------|-----|----------------------|--------------|------|-----|-------------------------|--------------|
|      | 1   | Box                  | CZN6627      |      | 36  | Case                    | CZN5558      |
|      | 2   | Cord Assy            | CZD2959      |      | 37  | Shield                  | CZN5557      |
|      | 3   | Screw                | BSZ30P050FMC |      | 38  | Plug (5P) (CN2)         | CZK2928      |
|      | 4   | Holder Cord          | CZN6625      |      | 39  | Battery                 | CEX1014      |
|      | 5   | Screw                | CBA1073      |      | 40  | Volume (VR451, S451)    | CZC2631      |
|      | 6   | Screw                | CBA1002      |      | 41  | Volume (VR452, 453)     | CZC2633      |
|      | 7   | Bush                 | CNV1009      |      | 42  | Bracket                 | CZN6620      |
| ●    | 8   | Grille Assy          | CZX2974      |      | 43  | Insulator               | CZN6644      |
|      | 9   | Lens                 | CZN6632      |      | 44  | IC (IC951)              | PD4275B      |
|      | 10  | Button (TUNE)        | CZA2979      |      | 45  | IC (IC1)                | LA1883M      |
|      | 11  | Grille               | CZN6641      |      | 46  | Cushion                 | CZN6647      |
|      | 12  | Button (FUNCTION)    | CZA2980      | ●    | 47  | Key Board Unit          | CZW2965      |
|      | 13  | Button (PRESET)      | CZA2978      |      | 48  | Lamp (IL901, 902)       | CZE2933      |
|      | 14  | Spring               | CZB2967      |      | 49  | Rubber                  | CZN6635      |
|      | 15  | Door                 | CZN6633      |      | 50  | Bracket                 | CZN6626      |
|      | 16  | Screw                | CZB2921      |      | 51  | LCD                     | CZA2987      |
|      | 17  | Washer               | CZB2968      |      | 52  | Sheet                   | CZN6629      |
|      | 18  | Cushion              | CZN6645      |      | 53  | Lens                    | CZN6634      |
|      | 19  | Shaft                | CZN5538      |      | 54  | Insulator               | CZN6628      |
|      | 20  | Knob (FADER)         | CZA2982      |      | 55  | Chassis Assy            | CZN6617      |
|      | 21  | Spring               | CZA2949      |      | 56  | Button (DETACH)         | CZA2986      |
|      | 22  | Knob (VOLUME/SWITCH) | CZA2981      |      | 57  | Lever                   | CZN2985      |
|      | 23  | Knob (BASS, TREBLE)  | CZA2943      |      | 58  | Spring                  | CZB2919      |
|      | 24  | Handle               | CZN6636      |      | 59  | Lever                   | CZN2986      |
|      | 25  | Cover                | CZN6631      |      | 60  | Spring                  | CZB2918      |
| ●    | 26  | Tuner Amp Unit       | CZX2970      | ●    | 61  | Cover                   | CZN6619      |
|      | 27  | Screw                | BSZ30P080FMC |      | 62  | Cassette Mechanism Assy | CZW2970      |
|      | 28  | IC (IC551)           | TA7281P      |      | 63  | Cassette Mechanism      | CZX2947      |
|      | 29  | Connector (5P) (CN1) | CZD2952      |      | 64  | Connector (5P) (CN2)    | CZD2951      |
|      | 30  | Transister (Q911)    | 2SD1684      |      | 65  | Button (EJECT)          | CZA2985      |
|      | 31  | Bracket              | CZN6623      |      | 66  | Button (REW)            | CZA2984      |
|      | 32  | Holder               | CZN6624      |      | 67  | Button (FF)             | CZA2983      |
|      | 33  | Plug (20P) (CN3)     | CKS1977      |      | 68  | Bracket                 | CZN6622      |
|      | 34  | Screw                | BSZ26P060FMC |      | 69  | Cable Tie               | CZM2901      |
|      | 35  | Cushion              | CZN6646      |      | 70  | Screw                   | PMZ30P040FUC |
|      |     |                      |              |      | 71  | Bracket                 | CZN6621      |

- The KE-1800QR/XMA/UC, KE-2800QR/XMA/ES, KE-2850QR/XMA/ES, and KE-2800B/XMA/EW Parts Lists enumerate the parts which differ from those enumerated in the KE-1303QR/XMA/UC Parts List only.  
The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly.  
The KE-1303QR/XMA/UC Parts List is given on page 36.

|      |     |                | KE-1303QR/XMA/UC | KE-1800QR/XMA/UC | KE-2800QR/XMA/ES | KE-2850QR/XMA/ES | KE-2800B/XMA/EW |
|------|-----|----------------|------------------|------------------|------------------|------------------|-----------------|
| Mark | No. | Description    | Part No.         | Part No.         | Part No.         | Part No.         | Part No.        |
| ●    | 2   | Cord Assy      | CZD2959          | CZD2958          | CZD2959          | CZD2958          | CZD2958         |
|      | 8   | Grille Assy    | CZX2974          | CZX2968          | CZX2976          | CZX2972          | CZX2978         |
|      | 11  | Grille         | CZN6641          | CZN6630          | CZN6642          | CZN6640          | CZN6643         |
| ●    | 26  | Tuner Amp Unit | CZW2970          | CZW2961          | CZW2973          | CZW2966          | CZW2976         |
|      | 41  | Volume         | CZC2631          | CZC2631          | CZC2632          | CZC2632          | CZC2631         |
|      | 48  | Lamp           | CZE2933          | CZE2933          | CZE2933          | CZE2933          | CZE2934         |

5. CASSETTE MECHANISM ASSY EXPLODED VIEW

• Parts List

| Mark | No. | Description           | Part No. | Mark | No. | Description             | Part No. | Mark | No. | Description             | Part No. |
|------|-----|-----------------------|----------|------|-----|-------------------------|----------|------|-----|-------------------------|----------|
|      | 1   | Screw (M2.6×2.5)      | CZB2950  |      | 46  | E Ring (S2.0)           | CZB2959  |      | 91  | Screw                   | CZB2965  |
|      | 2   | Spring                | CZB2933  |      | 47  | Arm                     | CZN6607  |      | 92  | Head (HD1)              | CZX2958  |
|      | 3   | Lever                 | CZN5596  |      | 48  | Screw (M2×3)            | CZB2960  |      | 93  | Screw                   | CZB2966  |
|      | 4   | Lever                 | CZN5598  |      | 49  | Chassis Assy            | CZN5566  |      | 94  | Screw (M2×5)            | CZB2951  |
|      | 5   | Spring                | CZB2934  |      | 50  | Motor Assy (M1)         | CZX2959  |      | 95  | Holder                  | CZN5571  |
|      | 6   | Plate                 | CZN5597  |      | 51  | Washer (W1.5×3.2×0.5)   | CZB2963  |      | 96  | Washer                  | CZB2926  |
|      | 7   | Roller                | CZL2911  |      | 52  | Washer (W1.85×3.2×0.2)  | CZB2962  |      | 97  | Spring                  | CZB2925  |
|      | 8   | Roller                | CZL2910  |      | 53  | Gear                    | CZN6604  |      | 98  | Screw (M2×5)            | CZB2952  |
|      | 9   | Spring                | CZB2939  |      | 54  | Power Switch Assy       | CZW2960  |      | 99  | Washer (W2.1×4×0.4)     | CZB2953  |
|      | 10  | Washer (W1.6×3.8×0.3) | CZB2954  |      | 55  | Switch (S3) (TAPE/TUN)  | CZS1912  |      | 100 | Metal                   | CZN5568  |
|      | 11  | Pinch Roller Arm Assy | CZN5574  |      | 56  | Screw                   | CZB2941  |      | 101 | Washer (W10.3×14.2×0.4) | CZB2948  |
|      | 12  | Arm                   | CZN6610  |      | 57  | Connector (5P) (CN1)    | CZK2929  |      | 102 | Gear                    | CZN5569  |
|      | 13  | Spring                | CZB2938  |      | 58  | Switch (S4) (MUTE)      | CZS2913  |      | 103 | Guide                   | CZN5570  |
|      | 14  | M.G. Plate Assy       | CZX2961  |      | 59  | P.C. Board              | CZN5588  |      | 104 | Plate                   | CZN5572  |
|      | 15  | Washer (W1.2×3×0.25)  | CZB2957  |      | 60  | Pulley                  | CZN6605  |      | 105 | Roller                  | CZL2909  |
|      | 16  | Gear                  | CZN5578  |      | 61  | Washer (W0.85×2.8×0.25) | CZB2944  |      | 106 | Spring                  | CZB2924  |
|      | 17  | Gear                  | CZN5579  |      | 62  | Spring                  | CZB2935  |      | 107 | Head Panel Assy         | CZN5567  |
|      | 18  | Spring                | CZB2927  |      | 63  | Spring                  | CZB2936  |      |     |                         |          |
|      | 19  | T. Reel Assy          | CZN5577  |      | 64  | Plate                   | CZN5599  |      |     |                         |          |
|      | 20  | Spring                | CZB2928  |      | 65  | Plate                   | CZN6609  |      |     |                         |          |
|      | 21  | Arm                   | CZN5587  |      | 66  | FR Working Plate Assy   | CZX2964  |      |     |                         |          |
|      | 22  | P. Clutch Assy        | CZN5585  |      | 67  | Gear                    | CZN6601  |      |     |                         |          |
|      | 23  | Washer (W1.6×3.4×0.3) | CZB2958  |      | 68  | Plate Semi-Assy         | CZN5600  |      |     |                         |          |
|      | 24  | Gear                  | CZN5580  |      | 69  | Spring                  | CZB2937  |      |     |                         |          |
|      | 25  | Gear                  | CZN5581  |      | 70  | Washer (W1.85×5×0.13)   | CZB2961  |      |     |                         |          |
|      | 26  | M.G. Plate Semi-Assy  | CZN5584  |      | 71  | F.L. Capstan Assy       | CZN6602  |      |     |                         |          |
|      | 27  | Screw                 | CZB2942  |      | 72  | Belt                    | CZN6603  |      |     |                         |          |
|      | 28  | Screw (M2×3)          | CZB2955  |      | 73  | FR Lever Assy           | CZX2963  |      |     |                         |          |
|      | 29  | Gear                  | CZN5582  |      | 74  | Spring                  | CZB2945  |      |     |                         |          |
|      | 30  | E Ring (S1.5)         | CZB2956  |      | 75  | Lever                   | CZN6611  |      |     |                         |          |
|      | 31  | Plate                 | CZN5586  |      | 76  | Lever                   | CZN6612  |      |     |                         |          |
|      | 32  | Plate                 | CZN5583  |      | 77  | Screw (M2.6×4)          | CZB2964  |      |     |                         |          |
|      | 33  | Cassette Case Assy    | CZX2962  |      | 78  | Spring                  | CZB2947  |      |     |                         |          |
|      | 34  | Spring                | CZB2932  |      | 79  | Plate                   | CZN6614  |      |     |                         |          |
|      | 35  | P.E Plate Assy        | CZN5590  |      | 80  | Plate Assy              | CZN5576  |      |     |                         |          |
|      | 36  | Spring                | CZB2930  |      | 81  | F.R. Bracket Assy       | CZN5575  |      |     |                         |          |
|      | 37  | Slider                | CZN5594  |      | 82  | Spring                  | CZB2946  |      |     |                         |          |
|      | 38  | Cushion               | CZN5591  |      | 83  | Plate                   | CZN6613  |      |     |                         |          |
|      | 39  | Screw (M1.7×2.5)      | CZB2949  |      | 84  | Pinch Roller Arm Assy   | CZN5573  |      |     |                         |          |
|      | 40  | Plate                 | CZN5595  |      | 85  | Plate                   | CZN6608  |      |     |                         |          |
|      | 41  | Lifter                | CZN5589  |      | 86  | Arm                     | CZN6606  |      |     |                         |          |
|      | 42  | Spring                | CZB2929  |      | 87  | Screw                   | CZB2940  |      |     |                         |          |
|      | 43  | Spring                | CZB2931  |      | 88  | Spring                  | CZB2943  |      |     |                         |          |
|      | 44  | Plate                 | CZN5593  |      | 89  | Head Panel Assy         | CZX2960  |      |     |                         |          |
|      | 45  | Case                  | CZN5592  |      | 90  | Switch (S2) (FWD/REV)   | CZS2911  |      |     |                         |          |

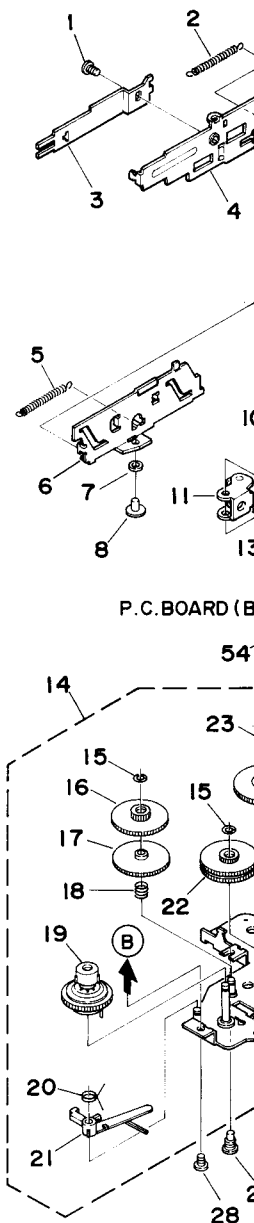
• Cassette Mechan

A

B

C

D



| Mark | No. | Description             | Part No. |
|------|-----|-------------------------|----------|
|      | 91  | Screw                   | CZB2965  |
|      | 92  | Head (HD1)              | CZX2958  |
|      | 93  | Screw                   | CZB2966  |
|      | 94  | Screw (M2x5)            | CZB2951  |
|      | 95  | Holder                  | CZN5571  |
|      | 96  | Washer                  | CZB2926  |
|      | 97  | Spring                  | CZB2925  |
|      | 98  | Screw (M2x5)            | CZB2952  |
|      | 99  | Washer (W2.1x4x0.4)     | CZB2953  |
|      | 100 | Metal                   | CZN5568  |
|      | 101 | Washer (W10.3x14.2x0.4) | CZB2948  |
|      | 102 | Gear                    | CZN5569  |
|      | 103 | Guide                   | CZN5570  |
|      | 104 | Plate                   | CZN5572  |
|      | 105 | Roller                  | CZL2909  |
|      | 106 | Spring                  | CZB2924  |
|      | 107 | Head Panel Assy         | CZN5567  |

• Cassette Mechanism Assy

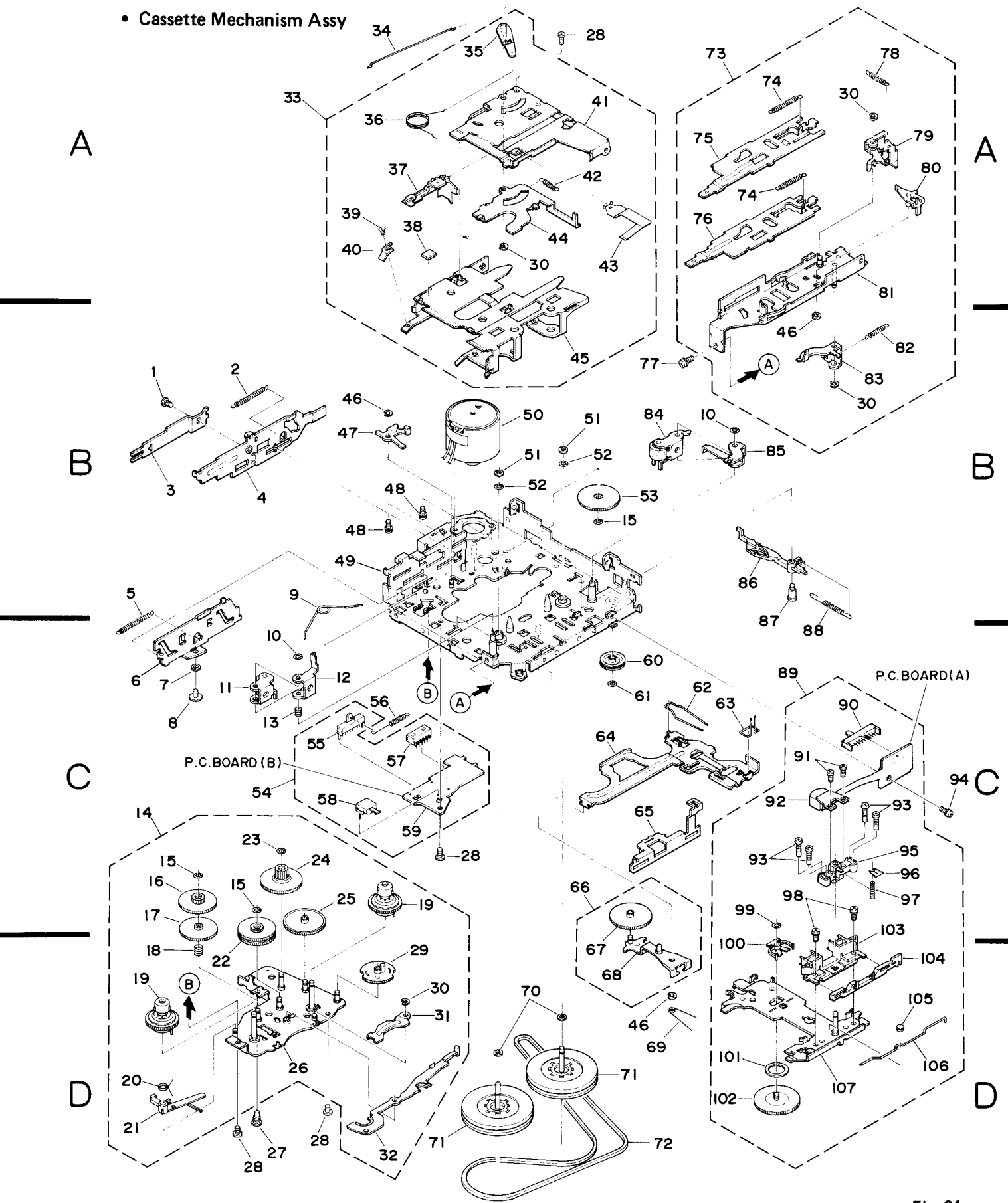


Fig. 24



16. PACKING METHOD

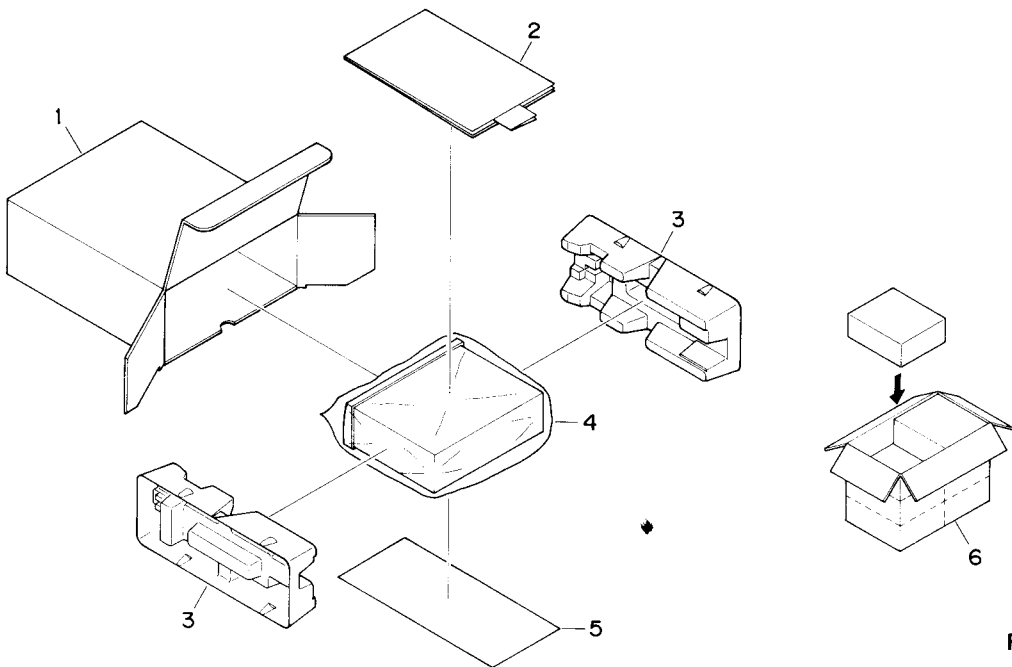


Fig. 25

• Parts List (KE-1303QR/XMA/UC)

| Mark | No.   | Description      | Part No. | Mark | No.   | Description | Part No. |
|------|-------|------------------|----------|------|-------|-------------|----------|
|      | 1     | Carton           | CZH5528  |      | 5-1-4 | Bush        | CNV1009  |
|      | 2     | Owner's Manual   | CZR2918  |      | 5-1-5 | Shaft       | CZN5538  |
| *    | 2-1   | Card             | ARY1048  |      | 5-1-6 | Strap       | CZN2921  |
|      | 3     | Protector (x2)   | CZH5523  |      | 6     | Contain Box | CZH5529  |
| *    | 4     | Polyethylene Bag | CZE2903  |      |       |             |          |
|      | 5     | Accessory Assy   | CZE2935  |      |       |             |          |
| *    | 5-1   | Polyethylene Bag | CZE2908  |      |       |             |          |
|      | 5-1-1 | Screw (x1)       | CBA-102  |      |       |             |          |
|      | 5-1-2 | Nut (x2)         | NF50FMC  |      |       |             |          |
|      | 5-1-3 | Screw (x1)       | CBA1002  |      |       |             |          |

• The KE-1800QR/XMA/UC, KE-2800QR/XMA/ES, KE-2850QR/XMA/ES, and KE-2800B/XMA/EW Parts Lists enumerate the parts which differ from those enumerated in the KE-1303QR/XMA/UC Parts List only.  
The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly.  
The KE-1303QR/XMA/UC Parts List is given on page 40.

| Mark | No.   | Description      | KE-1303QR/XMA/UC | KE-1800QR/XMA/UC | KE-2800QR/XMA/ES | KE-2850QR/XMA/ES | KE-2800B/XMA/EW |
|------|-------|------------------|------------------|------------------|------------------|------------------|-----------------|
|      | 1     | Carton           | CZH5528          | CZH5524          | CZH5531          | CZH5526          | CZH5533         |
|      | 2     | Owner's Manual   | CZR2918          | CZR2916          | CZR2919          | CZR2917          | CZR2920         |
| *    | 2-1   | Card             | ARY1048          | ARY1048          | .....            | .....            | CRY-062         |
|      | 5     | Accessory Assy   | CZE2935          | CZE2935          | CZE2935          | CZE2936          | CZE2936         |
| *    | 5-1   | Polyethylene Bag | CZE2908          | CZE2908          | CZE2908          | CZE2908          | CZE-053         |
|      | 5-1-1 | Screw (x1)       | CBA-102          | CBA-102          | CBA-102          | .....            | .....           |
|      | 5-1-2 | Nut (x2)         | NF50FMC          | NF50FMC          | NF50FMC          | .....            | .....           |
|      | 5-1-6 | Strap            | CZN2921          | CZN2921          | CZN2921          | .....            | .....           |
|      | 6     | Contain Box      | CZH5529          | CZH5525          | CZH5532          | CZH5527          | CZH5534         |

Owner's Manual

| Part No. | Language  |
|----------|---|
| CZR2916  | English, French, Spanish                                      |
| CZR2918  | English, French, Spanish                                      |
| CZR2917  | English, French, Spanish, Arabic                              |
| CZR2919  | English, French, Spanish, Arabic                              |
| CZR2920  | English, French, Dutch, Spanish, Portuguese, Swedish, Finnish |

17. ELECTRICAL PARTS LIST

NOTE:  
• Parts whose parts numbers are omitted are subject to being not supplied.  
• The part numbers shown below indicate chip components.  
Chip Resistor  
RS1/8S □□□J, RS1/20S □□□J  
Chip Capacitor (except for COS.....)  
CKS....., CCS....., CSZS.....

Unit Number:  
Unit Name: Tuner Amp Unit (KE-1303QR/XMA/UC)

|  |
|--|
| Tuner Amp Unit                         |
| Consists of<br>• Tuner Amp P. C. Board |

MISCELLANEOUS

| Circuit Symbol & No.              | Part Name                  | Part No.   | Circuit Symbol & No. | Part Name                   | Part No. |
|-----------------------------------|----------------------------|------------|----------------------|-----------------------------|----------|
| IC 1                              |                            | LA1883M    | L 3                  | Coil                        | CTC1090  |
| IC 251                            |                            | LA3161P    | L 4                  | Coil                        | CTC1092  |
| IC 551                            |                            | TA7281P    | L 5                  | OSC Coil                    | CTC1024  |
| IC 951                            |                            | PD4275B    | L 6                  | Inductor                    | LAU150K  |
| Q 1                               | Chip Transistor            | 3SK195     | L 201 203            | Ferri-Inductor              | LAU4R7K  |
| Q 2                               |                            | 2SC2999    | L 202                | Ferri-Inductor              | LAU330K  |
| Q 3                               |                            | 2SA933S    | L 901                | Chock Coil                  | CTH1084  |
| Q 151 953                         | Chip Transistor            | 2SC2412K   | L 951                | Ferri-Inductor              | LAU101K  |
| Q 152                             | Chip Transistor            | DTA124EK   | T 1                  | Coil                        | CTC1064  |
| Q 153                             | Chip Transistor            | DTC124EK   | T 51                 | Coil                        | CTC1071  |
| Q 201                             |                            | 2SK435     | T 201                | Coil                        | CTB1056  |
| Q 202 451 452 502 503 522         |                            | 2SC1740S   | T 202                | Coil                        | CTB1008  |
| Q 251                             |                            | 2SD1992A   | T 203 204            | Coil                        | CTB1058  |
| Q 455 456 802 803                 |                            | DTC343TS   | T 205                | Coil                        | CTE1041  |
| Q 457 913                         |                            | DTC124ES   | T 206                | Coil                        | CTE1042  |
| Q 801 952                         |                            | DTA124ES   | T 210                | Coil                        | CTB1061  |
| Q 911                             |                            | 2SD1684    | CF 1                 | Ceramic Filter              | CTF-182  |
| Q 912                             |                            | 2SA1150    | CF 51 52             | Ceramic Filter              | CTF1284  |
| Q 951                             |                            | DTC114ES   | CF 201               | Filter                      | CTF1085  |
| D 1                               | Chip Diode                 | 1SV128A-BB | H 1                  |                             | DSP-201M |
| D 2 3 4                           | Variable Capacitance Diode | SVC203-AB  | X 151                | Crystal Resonator           | CSS1066  |
| D 5                               | Chip Diode                 | MA157-MR   | X 951                | Crystal Resonator           | CZS2914  |
| D 151                             |                            | MTZJ4R3C   | VR 151               | Semi-fixed 150KΩ            | CZC2624  |
| D 201 202 203 204 451 452 453 454 |                            | 1SS133     | VR 152               | Semi-fixed 33KΩ             | CZC2623  |
| D 205                             | Variable Capacitance Diode | KV1235Z3   | VR 451               | Volume 50KΩ(W)×2, 50KΩ(A)×2 | CZC2631  |
| D 252 911                         |                            | MTZJ9R1B   | VR 452 453           | Volume 50KΩ(A)×2            | CZC2633  |
| D 456 458 459 954 958 959 960 962 |                            | 1SS133     |                      | LCD                         | CZA2987  |
| D 901 902                         |                            | ERA15-02VH |                      |                             |          |
| D 951                             |                            | MTZJ5R1B   |                      |                             |          |
| D 961                             |                            | MTZJ5R6B   |                      |                             |          |
| D 963 968 970                     |                            | 1SS133     |                      |                             |          |
| D 964                             |                            | RB721Q     |                      |                             |          |
| D 979                             |                            | MTZJ8R2B   |                      |                             |          |
| L 1                               | Inductor                   | CTF1065    |                      |                             |          |
| L 2                               | Coil                       | CTC1091    |                      |                             |          |

RESISTORS

| Circuit Symbol & No. | Part No. |
|----------------------|----------|
| R 1 3 5 2            |          |
| R 2                  |          |
| R 4 159 459 46       |          |
| R 6 955 956 96       |          |
| R 8                  |          |
| R 9 52               |          |
| R 10 157 201 20      |          |
| R 13 17              |          |
| R 14 18 205          |          |
| R 15                 |          |
| R 16                 |          |
| R 20 155             |          |
| R 21                 |          |
| R 23 961 966 97      |          |
| R 24                 |          |
| R 25 223             |          |
| R 26 204 219 45      |          |
| R 27                 |          |
| R 51 953             |          |
| R 53                 |          |
| R 54                 |          |
| R 55 102 104 15      |          |
| R 56                 |          |
| R 57 210             |          |
| R 58 251 252         |          |
| R 101 555 556        |          |
| R 103                |          |
| R 105                |          |
| R 153                |          |
| R 154 484 504        |          |
| R 156                |          |
| R 203                |          |
| R 220                |          |
| R 221 253 254        |          |
| R 222                |          |
| R 255 256            |          |
| R 257 258            |          |
| R 259 260            |          |
| R 262 311 312 50     |          |
| R 305 306            |          |
| R 310 964            |          |
| R 451 452 551 55     |          |
| R 453 454            |          |
| R 457 458            |          |
| R 461 462            |          |
| R 463 464            |          |
| R 469 470 914        |          |
| R 465 466 912        |          |
| R 467 468            |          |
| R 480                |          |
| R 481                |          |
| R 482                |          |
| R 483 960            |          |
| R 557 558            |          |
| R 802 803            |          |
| R 804 805            |          |
| R 806 807            |          |
| R 901                |          |
| R 911                |          |
| R 951 952            |          |

17. ELECTRICAL PARTS LIST

- NOTE:
- Parts whose parts numbers are omitted are subject to being not supplied.
  - The part numbers shown below indicate chip components.
- Chip Resistor  
RS1/8S □□□J, RS1/20S □□□J
- Chip Capacitor (except for COS.....)  
CKS....., CCS....., CSZS.....

Unit Number:  
Unit Name: Tuner Amp Unit (KE-1303QR/XMA/UC)

|                         |
|-------------------------|
| Tuner Amp Unit          |
| Consists of             |
| • Tuner Amp P. C. Board |

| MISCELLANEOUS                     |                            |            |                      |                             |          |
|-----------------------------------|----------------------------|------------|----------------------|-----------------------------|----------|
| Circuit Symbol & No.              | Part Name                  | Part No.   | Circuit Symbol & No. | Part Name                   | Part No. |
| IC 1                              | Chip Transistor            | LA1883M    | L 3                  | Coil                        | CTC1090  |
| IC 251                            |                            | LA3161P    | L 4                  | Coil                        | CTC1092  |
| IC 551                            |                            | TA7281P    | L 5                  | OSC Coil                    | CTC1024  |
| IC 951                            |                            | PD4275B    | L 6                  | Inductor                    | LAU150K  |
| Q 1                               |                            | 3SK195     | L 201 203            | Ferri-Inductor              | LAU4R7K  |
| Q 2                               | Chip Transistor            | 2SC2999    | L 202                | Ferri-Inductor              | LAU330K  |
| Q 3                               |                            | 2SA933S    | L 901                | Chock Coil                  | CTH1084  |
| Q 151 953                         |                            | 2SC2412K   | L 951                | Ferri-Inductor              | LAU101K  |
| Q 152                             |                            | DTA124EK   | T 1                  | Coil                        | CTC1064  |
| Q 153                             |                            | DTC124EK   | T 51                 | Coil                        | CTC1071  |
| Q 201                             |                            | 2SK435     | T 201                | Coil                        | CTB1056  |
| Q 202 451 452 502 503 522         |                            | 2SC1740S   | T 202                | Coil                        | CTB1008  |
| Q 251                             |                            | 2SD1992A   | T 203 204            | Coil                        | CTB1058  |
| Q 455 456 802 803                 |                            | DTC343TS   | T 205                | Coil                        | CTE1041  |
| Q 457 913                         |                            | DTC124ES   | T 206                | Coil                        | CTE1042  |
| Q 801 952                         | Chip Diode                 | DTA124ES   | T 210                | Coil                        | CTB1061  |
| Q 911                             |                            | 2SD1684    | CF 1                 | Ceramic Filter              | CTF-182  |
| Q 912                             |                            | 2SA1150    | CF 51 52             | Ceramic Filter              | CTF1284  |
| Q 951                             |                            | DTC114ES   | CF 201               | Filter                      | CTF1085  |
| D 1                               |                            | 1SV128A-BB | H 1                  |                             | DSP-201M |
| D 2 3 4                           | Variable Capacitance Diode | SVC203-AB  | X 151                | Crystal Resonator           | CSS1066  |
| D 5                               | Chip Diode                 | MA157-MR   | X 951                | Crystal Resonator           | CZS2914  |
| D 151                             |                            | MTZJ4R3C   | VR 151               | Semi-fixed 150KΩ            | CZC2624  |
| D 201 202 203 204 451 452 453 454 |                            | 1SS133     | VR 152               | Semi-fixed 33KΩ             | CZC2623  |
| D 205                             | Variable Capacitance Diode | KV1235Z3   | VR 451               | Volume 50KΩ(W)×2, 50KΩ(A)×2 | CZC2631  |
| D 252 911                         |                            | MTZJ9R1B   | VR 452 453           | Volume 50KΩ(A)×2            | CZC2633  |
| D 456 458 459 954 958 959 960 962 |                            | 1SS133     |                      | LCD                         | CZA2987  |
| D 901 902                         |                            | ERA15-02VH |                      |                             |          |
| D 951                             |                            | MTZJ5R1B   |                      |                             |          |
| D 961                             |                            | MTZJ5R6B   |                      |                             |          |
| D 963 968 970                     |                            | 1SS133     |                      |                             |          |
| D 964                             |                            | RB721Q     |                      |                             |          |
| D 979                             |                            | MTZJ8R2B   |                      |                             |          |
| L 1                               | Inductor                   | CTF1065    |                      |                             |          |
| L 2                               | Coil                       | CTC1091    |                      |                             |          |

RESISTORS

| Circuit Symbol & No.         | Part Name | Part No.     |
|------------------------------|-----------|--------------|
| R 1 3 5 22                   |           | RS1/10S223J  |
| R 2                          |           | RD1/4PS151JL |
| R 4 159 459 460              |           | RS1/10S333J  |
| R 6 955 956 967              |           | RD1/4PS473JL |
| R 8                          |           | RS1/10S563J  |
| R 9 52                       |           | RD1/4PS563JL |
| R 10 157 201 202 211 456 913 |           | RS1/10S103J  |
| R 13 17                      |           | RD1/4PS271JL |
| R 14 18 205                  |           | RS1/10S561J  |
| R 15                         |           | RS1/10S683J  |
| R 16                         |           | RS1/10S474J  |
| R 20 155                     |           | RS1/10S182J  |
| R 21                         |           | RS1/10S182J  |
| R 23 961 966 972             |           | RD1/4PS472JL |
| R 24                         |           | RD1/4PS682JL |
| R 25 223                     |           | RS1/10S472J  |
| R 26 204 219 455             |           | RD1/4PS103JL |
| R 27                         |           | RS1/10S510J  |
| R 51 953                     |           | RS1/10S331J  |
| R 53                         |           | RD1/4PS104JL |
| R 54                         |           | RD1/4PS133JL |
| R 55 102 104 158 160 453 454 |           | RS1/10S682J  |
| R 56                         |           | RD1/4PS562JL |
| R 57 210                     |           | RS1/10S473J  |
| R 58 251 252                 |           | RS1/10S513J  |
| R 101 555 556                |           | RS1/10S133J  |
| R 103                        |           | RS1/10S183J  |
| R 105                        |           | RS1/10S752J  |
| R 153                        |           | RD1/4PS562JL |
| R 154 484 504                |           | RS1/10S332J  |
| R 156                        |           | RS1/10S684J  |
| R 203                        |           | RD1/4PS513JL |
| R 220                        |           | RD1/4PS752JL |
| R 221 253 254                |           | RS1/10S104J  |
| R 222                        |           | RD1/4PS220JL |
| R 255 256                    |           | RS1/10S181J  |
| R 257 258                    |           | RS1/10S153J  |
| R 259 260                    |           | RS1/10S334J  |
| R 262 311 312 505 582 973    |           | RD1/4PS102JL |
| R 305 306                    |           | RD1/4PS153JL |
| R 310 964                    |           | RD1/4PS331JL |
| R 451 452 551 552            |           | RS1/10S152J  |
| R 453 454                    |           | RS1/10E222J  |
| R 457 458                    |           | RD1/4PS182JL |
| R 461 462                    |           | RS1/10E394J  |
| R 463 464                    |           | RS1/8S222J   |
| R 469 470 914                |           | RS1/10S222J  |
| R 465 466 912                |           | RS1/10S221J  |
| R 467 468                    |           | RD1/4PS153JL |
| R 480                        |           | RD1/4PS332JL |
| R 481                        |           | RD1/4PS223JL |
| R 482                        |           | RD1/4PS392JL |
| R 483 960                    |           | RD1/4PS222JL |
| R 557 558                    |           | RD1/4PS2R2JL |
| R 802 803                    |           | RD1/4PS390JL |
| R 804 805                    |           | RD1/4PS751JL |
| R 806 807                    |           | RD1/2PS220JL |
| R 901                        |           | RS1/2P3R3JL  |
| R 911                        |           | RS1/10S471J  |
| R 951 952                    |           | RD1/2PS331JL |

CAPACITORS

| Circuit Symbol & No.            | Part Name  | Part No.     |
|---------------------------------|------------|--------------|
| C 1 3 17 203 952                |            | CCSQCH220J50 |
| C 2 21 53 58 205 225 226 232    |            | CKSQYB473K25 |
| C 4 25 469 470                  |            | CCSQCH330J50 |
| C 5 207 209                     |            | CCSQTH090D50 |
| C 6                             |            | CCSQTH070D50 |
| C 7 202                         |            | CDSQ222K50   |
| C 8 22 51 54 59 105 204 216     |            | CKSQYB223K50 |
| C 9                             |            | CCSQTH120J50 |
| C 10                            |            | CCSQSL271J50 |
| C 11 19 101 154 164 201 257 258 |            | CKSQYB103K50 |
| C 12 24                         |            | CCSQCH470J50 |
| C 13 224                        |            | CEA3R3M50LS  |
| C 14 106 165 251 252 551 552    |            | CKSQYB102K50 |
| C 15                            |            | CCSQCH100D50 |
| C 16 18                         |            | CCSQCH120J50 |
| C 20                            |            | CKSQYF104Z50 |
| C 27 52 912                     |            | CEA101M10LS  |
| C 55 155 156 157 451 468        |            | CEA101M50LS2 |
| C 56                            |            | CCSQCH240J50 |
| C 57 222                        |            | CEAR47M50LS2 |
| C 61 954                        |            | CKSYB473K50  |
| C 102 206 262 563               |            | CEA470M16LS  |
| C 103                           |            | CKSQYB182K50 |
| C 104                           |            | CKSQYB682K50 |
| C 151 152                       |            | CKSQYB223K50 |
| C 153                           |            | CKSQYB332K50 |
| C 158 455 456                   |            | CEAR22M50LS2 |
| C 159                           |            | CEA0R1M50LS2 |
| C 161                           |            | CEA100M16LS2 |
| C 162 163                       |            | CKSQYB152K50 |
| C 208                           |            | CCSQCH010C50 |
| C 217 230                       |            | CCSQRH101J50 |
| C 218                           |            | CCSQJ180J50  |
| C 227 229 501 502               |            | CKSQYB223K50 |
| C 228 467                       |            | CEA220M16LS  |
| C 231                           |            | CQPA431J2A   |
| C 253 254                       |            | CEA2R2M50LS2 |
| C 255 256                       |            | CEA101M10L2  |
| C 261 555 556                   |            | CEA221M10L2  |
| C 303 304 310                   |            | CEA100M16L2  |
| C 452 901                       |            | CEA010M50LS2 |
| C 453 454                       |            | CKSQYB333K50 |
| C 457 458                       |            | CKSQYB272K50 |
| C 459 460                       |            | CKSYB273K50  |
| C 461 462                       |            | CEA2R2M50LS2 |
| C 503                           |            | CSZA2R2M16   |
| C 553 554                       |            | CEA010M50L2  |
| C 557                           |            | CEA47010LS2  |
| C 558                           |            | CEA470M10LS  |
| C 559 560                       |            | CKSQYB104K25 |
| C 561 562                       | 1000μF/10V | CZC2630      |
| C 564                           |            | CEA471M16L2  |
| C 902 905 955                   |            | CKSQYB473K25 |
| C 903                           |            | CEA331M16LS  |
| C 904                           |            | CEHAQ472M16  |
| C 911                           | 330μF/10V  | CZC2634      |
| C 951                           |            | CCSQCH180J50 |
| C 956 957                       |            | CEA221M101LS |

# KE-1303QR/1800QR/2800QR/2850QR/2800B

- The KE-1800QR/XMA/UC, KE-2800QR/XMA/ES, KE-2850QR/XMA/ES, and KE-2800B/XMA/EW Parts Lists enumerate the parts which differ from those enumerated in the KE-1303QR/XMA/UC Parts List only.  
The parts other than those enumerated in the former are identical with those in the latter, to which you are requested to refer, accordingly.  
The KE-1303QR/XMA/UC Parts List is given on page 41.

| Tuner Amp Unit | KE-1303QR/XMA/UC | KE-1800QR/MXA/UC | KE-2800QR/MXA/ES | KE-2850QR/MXA/ES | KE-2800B/XMA/EW |
|----------------|------------------|------------------|------------------|------------------|-----------------|
| Symbol & No.   | Part No.         | Part No.         | Part No.         | Part No.         | Part No.        |
| Q 802 803      | .....            | DTC343TS         | DTC343TS         | .....            | DTC343TS        |
| D 950          | .....            | .....            | .....            | .....            | 1SS133          |
| D 952          | .....            | .....            | 1SS133           | 1SS133           | .....           |
| D 954          | 1SS133           | 1SS133           | .....            | .....            | .....           |
| VR451          | CZC2631          | CZC2631          | CZC2632          | CZC2632          | CZC2631         |
| R 56           | RD1/4PS562JL     | RD1/4PS562JL     | RD1/4PS183JL     | RD1/4PS183JL     | RD1/4PS183JL    |
| R 467 468      | RD1/4PS153JL     | RD1/4PS153JL     | RD1/4PS103JL     | RD1/4PS103JL     | RD1/4PS103JL    |
| R 471 472      | .....            | .....            | RS1/10S222J      | RS1/10S222J      | .....           |
| R 802 803      | .....            | RD1/4PS390JL     | RD1/4PS390JL     | .....            | RD1/4PS390JL    |
| R 804 805      | .....            | RD1/4PS751JL     | RD1/4PS751JL     | .....            | RD1/4PS751JL    |
| R 806 807      | .....            | RD1/2PS220JL     | RD1/2PS222JL     | .....            | RD1/2PS220JL    |
| C 151 152      | CKSQYB223K50     | CKSQYB223K50     | CKSQYB153K50     | CKSQYB153K50     | CKSQYB153K50    |
| C 463 464      | .....            | .....            | CEAR22M50LS2     | CEAR22M50LS2     | .....           |

Unit Number :

Unit Name : Key Board Unit

## MISCELLANEOUS

| Circuit Symbol & No. | Part Name  | Part No. |
|----------------------|--|----------|
| 1L 901 902           | Lamp 14V 40mA<br>(KE-1303QR, 1800QR, 2800QR, 2850QR) | CZE2933  |
|                      | Lamp 14V 40mA (KE-2800B)                             | CZE2934  |

Unit Number :

Unit Name : P.C. Board (A)

| Circuit Symbol & No. | Part Name        | Part No. |
|----------------------|------------------|----------|
| S 2                  | Switch (FWD/REV) | CZS2911  |

Unit Number :

Unit Name : P.C. Board (B)

| Circuit Symbol & No. | Part Name         | Part No. |
|----------------------|-------------------|----------|
| S 3                  | Switch (TAPE/TUN) | CZS2912  |
| S 4                  | Switch (MUTE)     | CZS2913  |

## Miscellaneous Parts List

| Circuit Symbol & No. | Part Name  | Part No. |
|----------------------|------------|----------|
| M 1                  | Motor Assy | CZX2959  |
| HD 1                 | Head       | CZX2958  |

## 18. SPECIFICATIONS

### KE-1303QR/KE-1800QR

#### General

Power source . . . . . 14.4 V DC (10.8 — 15.6 V allowable)  
 Grounding system . . . . . Negative type  
 Max. current consumption . . . . . 2.5 A  
 Dimensions (chassis) . . . . . 178(W) x 50(H) x 141(D) mm  
     [7(W) x 2(H) x 5-1/2(D) in.]  
     (nose) . . . . . 188(W) x 58(H) x 17.5(D) mm  
     [7-3/8(W) x 2-1/4(H) x 3/4(D) in.]  
     (mounting bracket) . . . . . 182(W) x 52(H) x 152.5(D) mm  
     [7-1/8(W) x 2(H) x 6(D) in.]  
 Weight . . . . . 1.3 kg (2.9 lbs.)

#### Amplifier

Continuous power output is 3.2 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.  
 Maximum power output . . . . . 8.5 W x 2 / 7 W x 4 (EIAJ)  
 Load impedance . . . . . 4  $\Omega$  (4 — 8  $\Omega$  allowable)  
 Preout output level / output impedance . . . . . 500 mV/1 k $\Omega$   
 Tone controls (bass) . . . . .  $\pm 10$  dB (100 Hz)  
     (treble) . . . . .  $\pm 10$  dB (10 kHz)

#### Tape player

Tape . . . . . Compact cassette tape (C-30 — C-90)  
 Tape speed . . . . . 4.76cm/sec. (+0.14cm/sec. -0.05cm/sec.)  
 Fast forward /rewind time . . . . . Approx. 100 sec. for C-60  
 Wow & flutter . . . . . 0.13% (WRMS)  
 Frequency response . . . . . 40 — 14,000 Hz ( $\pm 3$  dB)  
 Stereo separation . . . . . 45 dB  
 Signal-to-noise ratio . . . . . 52 dB (IHF-A network)

### KE-2800QR/KE-2850QR/KE-2800B

#### General

Power source . . . . . 14.4 V DC (10.8 — 15.6 V allowable)  
 Grounding system . . . . . Negative type  
 Max. current consumption . . . . . 2.5 A  
 Dimensions (chassis) . . . . . 178(W) x 50(H) x 141(D) mm  
     (nose) . . . . . 188(W) x 58(H) x 17.5(D) mm  
     (mounting bracket) . . . . . 182(W) x 52(H) x 152.5(D) mm  
 Weight . . . . . 1.3 kg

#### Amplifier

Continuous power output is 3.2 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.  
 Maximum power output . . . . . 8.5 W x 2 / 7 W x 4 (EIAJ)  
 Load impedance . . . . . 4  $\Omega$  (4 — 8  $\Omega$  allowable)  
 Tone controls (bass) . . . . .  $\pm 10$  dB (100 Hz)  
     (treble) . . . . .  $\pm 10$  dB (10 kHz)  
 Loudness contour . . . . . +8 dB (100 Hz) (Volume: -30 dB)

#### Tape player

Tape . . . . . Compact cassette tape (C-30 — C-90)  
 Tape speed . . . . . 4.76cm/sec. (+0.14cm/sec. -0.05cm/sec.)  
 Fast forward / rewind time . . . . . Approx. 100 sec. for C-60  
 Wow & flutter . . . . . 0.13% (WRMS)  
 Frequency response . . . . . 40 — 14,000 Hz ( $\pm 3$  dB)  
 Stereo separation . . . . . 45 dB  
 Signal-to-noise ratio . . . . . 52 dB (IEC-A network)

#### FM tuner

Frequency range . . . . . 87.9 — 107.9 MHz  
     87.5 — 108 MHz  
 Usable sensitivity . . . . . 11 dBf (1.0  $\mu$ V/75 $\Omega$ , mono, S/N: 30 dB)  
 50 dB quieting sensitivity . . . . . 16 dBf (1.0  $\mu$ V/75 $\Omega$ , mono)  
 Signal-to-noise-ratio . . . . . 70 dB (IHF-A network)  
 Distortion . . . . . 0.3% (at 65 dBf, 1 kHz, stereo)  
 Frequency response . . . . . 30 — 15,000 Hz ( $\pm 3$  dB)  
 Stereo separation . . . . . 40 dB (at 65 dBf, 1 kHz)  
 Selectivity . . . . . 70 dB (2ACA) ( $\pm 400$  kHz)  
 Three-signal intermodulation (desire signal level)  
     . . . . . 55 dBf (two undesire signal level: 110 dBf)

#### AM tuner

Frequency range . . . . . 530 — 1,710 kHz  
 Usable sensitivity . . . . . 18  $\mu$ V (25 dB) (S/N: 20 dB)  
 Selectivity . . . . . 50 dB ( $\pm 10$  kHz)

*These specifications were determined and are presented in accordance with specification standards established by the Ad Hoc Committee of Car Stereo Manufacturers.*

#### Note:

Specifications and the design are subject to possible modification without notice due to improvements.

#### FM tuner

Frequency range . . . . . 87.5 — 108 MHz  
 Usable sensitivity . . . . . 11 dBf (1.0  $\mu$ V/75 $\Omega$ , mono, S/N: 30 dB)  
 50 dB quieting sensitivity . . . . . 16 dBf (1.0  $\mu$ V/75 $\Omega$ , mono)  
 Signal-to-noise-ratio . . . . . 70 dB (IEC-A network)  
 Distortion . . . . . 0.3% (at 65 dBf, 1 kHz, stereo)  
 Frequency response . . . . . 30 — 15,000 Hz ( $\pm 3$  dB)  
 Stereo separation . . . . . 40 dB (at 65 dBf, 1 kHz)

#### AM tuner [MW tuner]

Frequency range . . . . . 531 — 1,602 kHz (9 kHz)  
     530 — 1,710 kHz (10 kHz)  
 Usable sensitivity . . . . . 18  $\mu$ V (25 dB) (S/N: 20 dB)  
 Selectivity . . . . . 50 dB ( $\pm 9$  kHz)  
     50 dB ( $\pm 10$  kHz)

#### Note:

Specifications and the design are subject to possible modification without notice due to improvements.



